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*Book of Abstracts*



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## Introduction

It was not until the onset of the virus (end of April) that the ECSDEV Scientific Board advised us of this emergency replacement mode switching to the Online Conference.

Although we all currently find ourselves in challenging moments, I am optimistic that, at some unconfirmed time ahead, we find ourselves ready to move on with our lives, as hopefully, the danger of the novel coronavirus pandemic would have diminished. I can but wish for us all an even better future, perhaps somewhat different from that we have known. Along with our colleagues at the European Center of Sustainable Development, we are humbly set to make the ICSD Conference part of the global response to this extraordinary challenge.

On a brighter note, it was gratifying to learn of the great number of excellent presentations – many recording important efforts in their respective fields of research, despite the various limitations and threats due to the global pandemic emergency.

The 8<sup>th</sup> ICSD 2020 is organized by the European Center of Sustainable Development, from:

### Wednesday 09 to Thursday 10 September, 2020

8<sup>th</sup> ICSD2020 is an excellent opportunity to present your projects and discuss the latest results in the field of Sustainability Science. The general aim of the conference is to promote international collaboration in Sustainability Science and related disciplines.

The Conference theme is *Creating a unified foundation for the Sustainable Development: research, practice and education*. This theme emphasizes the strong foundation that is provided by using research to inform our everyday practices, policies, and research approaches.

On behalf of the Scientific Program Committee, I have great pleasure in presenting this important event of the Scientific Community.

The Conference topics are distributed in the range of the following streams within the ICSD2020 program:

- 1. Economic Sustainability:**
- 2. Environmental Sustainability:**
- 3. Socio-Cultural Sustainability:**

All abstracts were reviewed by members of the ICSD2020 Steering Committee for rating of abstract quality and presentation content.

Selected papers are also published at the European Journal of Sustainable Development.

Further details in accordance with the instructions of the ICSD2020 are provided on the [Call for Papers](http://www.ecsdev.org) page at: [www.ecsdev.org](http://www.ecsdev.org)

I would like to thank you for your scientific contribution to the International Conference on Sustainable Development and look forward to having the opportunity to showcase and disseminate your research.

I am hopeful and confident that a good number of colleagues will return next year in person to continue our well settled tradition.

Special thanks also to the organizing committee, and all the people that worked hard, to bring in light this considerable event.

Yours sincerely

[Professor Gian Paolo Caselli](#)

Chair, 8<sup>th</sup> ICSD2020 Steering Committee

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# Conference Program



# 1. Exploring Eco-efficiency in Small Scale Farming: How Governance, Policy and Human Capital Contribute to Sustainability?

Bazyli Czyżewski, Agnieszka Poczta-Wajda, Jolanta Drozd

## ABSTRACT:

The main objective of this paper is to estimate comprehensive SEM model explaining the impact of governance, policy and human capital on the eco-efficiency of small-scale farms based on the bias-corrected DEA score. The study builds on a sample of 673 small-scale farms from 16 Polish voivodships. The final dataset captured general household, socio-economic, and environmental characteristics as well as information on farms' connections with the market. In our study, we applied double-bootstrapped truncated regression used to compute the bias-corrected DEA score. We have developed a novel approach by including environmental public goods on the output side. The bias-corrected DEA scores were used as the dependent variable in structural equation modelling (SEM) - confirmatory factor analysis (CFA) with the human capital as a latent variable. The estimated model explains 85% of the eco-efficiency. We can see that human capital is the predominant driver of the eco-efficiency and coincides with the marketization which also has positive influence. The most striking observations concern the participation in environmental CAP schemes and the share of subsidies in income. Both have an intermediate negative impact on the eco-efficiency.

*Keywords: eco-efficiency, small-scale farming, double-bootstrapped truncated regression, structural equation model*

**Bazyli Czyżewski**, Ph.D.(hab.) full professor, lecturer and researcher in Poznań University of Economics and Business, Department of Macroeconomics and Agricultural Economics. He received a professor degree (habilitation) in 2013 and full professor title in 2019 in the discipline of economics. Author or co-author of over 160 scientific publications. He conducts research in the field of institutional economics, economic theory and agricultural economics, concerning i.a. input-output matrices, political rents and the Common Agricultural Policy (CAP) of the UE. Key publications in English: A New Land Rent Theory for Sustainable Agriculture (B. Czyżewski, A. Matuszczak), Land Use Policy 2016; Political Rents of European Farmers in The Sustainable Development Paradigm. International, National and Regional Perspective (Edited by Bazyli Czyżewski ), Polish Scientific Publishers PWN; The incidence of agricultural policy on the land market in Poland:Two-dimensional and multilevel analysis (B.Czyżewski, G. Przekoła, A. Poczta-Wajda), Land Use Policy 2017; Market versus agriculture in Poland – macroeconomic relations of incomes, prices and productivity in terms of the sustainable development paradigm (B.Czyżewski, A. Majchrzak), Technological and Economic Development of Economy 2017, Approaching the environmental sustainable value in agriculture: How factor endowments foster the eco-efficiency, Journal of Cleaner Production 2019 (A. Grzelak, B. Czyżewski et.al.).

**Prof. Agnieszka Poczta-Wajda**, Poznań University of Economics and Business, Poland, Associate Professor in Department of Macroeconomics and Agricultural Economic at Poznan University of Economics and Business. Author and co-author of more than 80 scientific publications, including prestigious IF journals. Her research, embedded mainly in the field of political economy, focuses on agricultural support policy in countries at different levels of economic development, the developmental paradox of agricultural policy, the deprivation of farmers' incomes and the liberalization of foreign trade in agricultural products. She was the leader of numerous research and development projects, and for her scientific and organizational activities she was awarded several times by the Rector of the PUEB. She also completed numerous short-term and long-term internships, including scholarship in the USA as a beneficiary of the Polish-American Fulbright Foundation grant.

**Prof. Jolanta Drozd**, Vilnius University, Lithuania



## 2. Strategies to Improve Hazardous Waste Management at the Faculty of Engineering Vitoria-Gasteiz UPV/EHU

Ainara Saralegi, Naiara Rojo, Jon Alvarez, Loli Encinas, Josune Amurrio

### ABSTRACT:

Universities, considered as agents of social change, are essential for providing the knowledge, innovations and solutions to the community, in order to nurture future leaders towards sustainable development. Therefore, universities are uniquely positioned to assist with implementing the 17 Sustainable Development Goals (SDG) and 169 targets to promote economic prosperity, social inclusion and environmental sustainability. In this context, the University of the Basque Country (UPV/EHU), with the initiative Campus Bizia Lab Programme (CBL), sees the SDG as a route map to bring the work of the university community (academic staff, service and administrative staff, and students) into line the major challenges facing the planet and people. As the production of hazardous waste (HW) has grown exponentially in recent years at the UPV/EHU, becoming an environmental problem of our time, the objective of this work, which is within the CBL, is to analyse the current HW management system at the Faculty of Engineering Vitoria-Gasteiz UPV/EHU and to develop strategies to minimize them and reduce the costs associated with their management. To this end, the data collected over the period 2012-2019 have been analyzed and different strategies have been proposed according to the 28 good practices established by the UPV/EHU.

*Keywords: Environment, Sustainability, Sustainability Development Goals, University Community, Hazardous Waste*

- Dr. Ainara Saralegi** works as Assistant Professor in the Department of Chemical and Environmental Engineering, at the Faculty of Engineering Vitoria-Gasteiz UPV/EHU, Spain. She obtained her PhD in Engineering of Renewable Materials by the UPV/EHU (2013), with special mention of 'International Thesis' and extraordinary doctorate award of the UPV/EHU. During 2015-2016 she was awarded a postdoctoral fellowship from the Basque Government, and she worked in the Advanced Materials Research Group, at Virginia Tech University (Virginia, USA), under the direction of Dr. Johan Foster. She has published 20 scientific articles (Hirsh factor=14, more than 600 citations) and one book chapter. Additionally, she has participated in more than 30 national and international conferences. Her current research topics are aligned with the challenges of sustainable development, mainly focused on the design, synthesis, investigation of structure-property relationships, and exploitation of novel functional polymer systems, in particular biomimetic and renewable resource based materials.
- Dr. Naiara Rojo** works as Associated Professor in the Department of Chemical and Environmental Engineering, at the Faculty of Engineering Vitoria-Gasteiz UPV/EHU, Spain. She obtained her PhD in Environmental Engineering by the UPV/EHU (2012), with special mention of 'International Thesis'. She has published 21 scientific indexed and non-indexed articles and has presented more than 50 contributions in national and international scientific conferences. In addition, she has co-authored two patents in the biofiltration field. Her current research topics are aligned with the challenges of sustainable development, mainly focused on the development and use of bioprocesses such as biofiltration of polluted gases and bioleaching of the metals contained in electric and electronic waste.

- Dr. Jon Alvarez** works as Assistant Professor in the Department of Chemical and Environmental Engineering, at the Faculty of Engineering Vitoria-Gasteiz UPV/EHU, Spain. He obtained his PhD in Chemical Engineering and Sustainable Development by the UPV/EHU (2015), with special mention of 'International Thesis' and extraordinary doctorate award of the UPV/EHU. During 2016-2018 he was awarded a postdoctoral fellowship from the UPV-EHU. He has published 30 scientific articles (h-index=20, more than 1200 citations) and 2 book chapters. In addition, he has presented more than 80 contributions in national and international scientific conferences. His research activity is developed within the group of Catalytic Processes and Waste Valorization (PROCAT-VARES) of the UPV/EHU and it is mainly based on the valorization of wastes (biomass, sewage sludge, plastics, tyres...) by means of pyrolysis and gasification processes in order to obtain higher value-added products.
- Dr. Lori Encinas** works as Associate Professor in the Department of Chemical and Environmental Engineering, at the Faculty of Engineering Vitoria-Gasteiz UPV/EHU, Spain. She obtained her PhD in Chemical Sciences by the UPV/EHU (1993), and extraordinary doctorate award of the UPV/EHU. She has carried out research stays in France (Centre de Recherches Atmosphériques) and in Rome (Istituto sull'Inquinamento Atmosferico). She has published more than 45 scientific works, both indexed and non-indexed and she has presented more than 30 contributions in national and international scientific conferences. Her research activity is mainly focused on the environmental area, in which her main research lines are the quantification and study of the deposit of atmospheric pollutants, photochemical pollution and the determination of nanoparticles in the air. Moreover, she develops research in the dietary and nutrition area, developing research related to sustainable food.
- Ms. Josune Amurrio** works as service and administrative staff in the Department of Chemical and Environmental Engineering, at the Faculty of Engineering Vitoria-Gasteiz UPV/EHU, Spain. She works as laboratory technician specialist, and among other tasks, she is in charge of the handling, processing, packaging, and tracking hazardous waste for shipment, treatment and disposal. She has attended several courses related to first aid, general laboratory safety, hazardous waste management, etc. Furthermore, she has been involved in several projects associated with the implementation of the 17 Sustainable Development Goals and 169 targets to promote economic prosperity, social inclusion and environmental sustainability at the Faculty of Engineering Vitoria-Gasteiz UPV/EHU.

### 3. Development of a Sustainable Society in the Context of Transformation of the Legal System

Andrejs Vilks, Aldona Kipane

**ABSTRACT:**

The aim of the study is to examine the impact of the legal system on the sustainable development of society. Authors mainly use descriptive and analytical cognitive methods. Analyzing the development trends of the society it can be admitted that they are contradictory, heterogeneous. Sustainable societal development at the global and regional level is unequal, contributing to social conflicts, the rise of crime and terrorist acts, and extremist character. Sustainable development of the society is ensured by a quality and balanced legal system. In the legal system, we include: a legal framework designed and implemented with high standards of justice for the values and needs of society; the stable and successive development of the institutional system; the practice of implementation of the normative regulation of law enforcement and other institutions in the public interest; a consistent legal policy and a high level of public awareness. The legal framework must be organically integrated with the process of sustainable development of society. It states that the legal system and its elements are transformed according to the needs of society and the principles of democracy.

*Keywords: Development, legal system, institutional system, society, transformation*

**Dr.iur. Prof., Andrejs Vilks** dean Faculty of Law Riga Stradins university, Dr. iur., professor. Research interests - Criminology, devianthology, crime policy. Publications 230, monographs 9

**Dr. iur., Aldona Kipane** is lector of Riga Stradiņš University Faculty of Law (Latvia). Research interests: Criminal Justice, Criminal law, Criminology, Victimology.

## 4. Openness, Innovation and Productivity: Evidence from Enterprise Surveys

Anmol Kaur Grewal

### ABSTRACT:

This paper aims to investigate firm-level dynamics of openness and productivity in developing and emerging economies. Using an augmented version of the structural framework originally proposed by Crépon, Duguet, and Mairesse (1998) (CDM hereafter), this paper focuses on innovation as the underlying mechanism through which openness affects productivity. This paper aims to fill the gap in the literature by using the World Bank Enterprise Surveys to construct a cross-country panel dataset spanning 54 emerging markets and developing economies between the years 2002-2019. To the best of my knowledge, the dataset so constructed is the most comprehensive in terms of its geographical coverage for a study of this type. Additionally, this paper contributes to the limited body of empirical work that focuses on innovation as the channel through which firms' openness affects their productivity. This analysis uses four different measures of openness: share of exports, imports of foreign inputs, inward FDI and use of foreign-licensed technology. The underlying mechanism through which openness affects productivity is measured in terms of two types of innovation: product innovation and process innovation. This paper is relevant for innovation policy at the country level since it aims to advance the understanding on how developing and emerging economies can maximise their gains from openness.

*Keywords: Productivity, Innovation, Openness, Firm Heterogeneity*

**Anmol Kaur Grewal** is a second-year Ph.D. candidate in International Economics at The Graduate Institute, Geneva. Her research focuses on cross-cutting issues related to trade, productivity and technology transfer from a network perspective. As a Research Assistant at CTEI, she is currently working on an SNF-funded project related to innovation and firm-level productivity in developing countries. She has previously worked for a number of international organizations including the International Trade Centre (ITC), the World Trade Organization (WTO) and the International Centre for Trade and Sustainable Development (ICTSD) in Geneva as well as the OECD in Paris. She has a Bachelor degree in Economics from the University of Delhi and a Master degree in International Economics from The Graduate Institute.

## 5. Mapping of Water Price for Sustainable Irrigation in the EU

Artur Lopatka

### **ABSTRACT:**

Growth of agriculture production giving base for food security of growing populations is one of the biggest challenges in water deficit conditions according to fact that excessive crop irrigation causes drainage of rivers and water reservoirs. There is a need for administratively effective - simple and low data demanding method, pricing of water used for irrigation. Using simple crop yield function dependent on Aridity Index (precipitation and irrigation to evapotranspiration ratio) and common assumption that farmers are profit-maximizers is possible to calculate optimal irrigation water intake and corresponding water outflow supplying surface and underground waters. By imposing as a condition of sustainable management a limit on the percentage reduction in outflow, the price of irrigation water can be calculated using only data about average climate, crop yields and crop yield prices. According to presented method and using data about regional shares of crops in LUCAS Land Cover database for whole EU a continuous map of water price for sustainable irrigation was prepared and compared with prices established locally.

*Keywords: Irrigation, water price, Aridity Index, LUCAS database*

**Artur Lopatka**, MSc is a senior researcher in the Department of Soil Science Erosion and Land Protection at the Institute of Soil Science and Plant Cultivation – State Research Institute. Specialization: spatial modeling, optimization, agricultural land quality.

## 6. Sustainable Digitalization in Public Institutions: Challenges for Human Rights

Aurelija Pūraitė, Rūta Adamonienė, Audronė Žemeckė

### ABSTRACT:

The modern world is bound not only by global flows of information, capital, services, and movement of goods and people but also by the wide range of opportunities to exert both positive and negative effects on these flows. Already, most of the aforementioned global flows, stationary and variable objects are protected (organized, coordinated, controlled) by digital technology and in the foreseeable future digitization will encompass the most diverse aspects and processes of existence. Access to the development, deployment, management and use of relevant digital technologies has expanded to such an extent that it has become virtually difficult and even impossible to provide timely protection against a wide range of actors, ranging from unauthorized specialized gathering to varying degrees of security. The development of information technology, which increasingly embraces various aspects of the existence of different security entities, calls for a new rethink of the philosophical - ideological, political, economic, social and cultural foundations of public security. In recent decades human rights have dominated in the discourse of legal and political systems. Now the balance between protection of human rights and public safety in the context of digitalization imposes necessity to reflect the concept of fundamental rights once again.

*Keywords: Sustainable digitalization, public and private security, human rights*

**Assoc. Prof. Dr. Aurelija Pūraitė** is an Associate professor in Mykolas Romeris University and a Vice-Dean for Science at Mykolas Romeris university Academy of Public Security. She is the head of the Master study Programme "Law and Police activities" Study Programme Committee. Fields of scientific interests of Assoc. prof. dr. Aurelija Pūraitė is connected with public security and human rights issues. Assoc. prof. dr. Aurelija Pūraitė is Deputy-Editor-in-Chief of the scientific journal "Public Security and Public Order", which is published by Mykolas Romeris university and is included in the EBSCO Publishing, International Security & Counter Terrorism Reference Center, Index Copernicus, Google Scholar databases.

**Prof. Habil Dr. Rūta Adamonienė** is a Professor at Mykolas Romeris university Academy of Public Security. She is the Editor-in-Chief of the scientific journal "Public Security and Public Order", which is published by Mykolas Romeris University and is included in the EBSCO Publishing, International Security & Counter Terrorism Reference Center, Index Copernicus, Google Scholar databases.

**Dr. Audronė Žemeckė** is a lecturer in Mykolas Romeris University and the Partner Lawyer in the Law Firm, specializing in the field of law on corporations, administrative law.

## 7. Jeddah's Waterfront Regeneration Project - A Post Occupancy Evaluation: Public Assessment of Visual and Social Dimensions - Part I

Azza Eleishe

### ABSTRACT:

Waterfront regeneration projects are used worldwide as a planning tactic to redevelop and stimulate cities overlooking various water bodies, as well as a promotion tool targeting cities' residents and visitors alike. The new opening up policy of the Kingdom of Saudi Arabia and its marketing as a tourist destination have implemented, not only audacious architectural and planning projects, but also major cultural and entertainment events to attract its citizens as well as its local and foreign tourists. The city of Jeddah in KSA, known as the "Bride of the Red Sea", has recently embarked in a major redevelopment project of its seafront or "corniche" which started in 2017, adding new physical amenities serving various social groups, sports opportunities as well as spaces for arts exhibition and cultural events. The project is designed to contribute to the social, cultural, visual, physical and economic dimensions of the specific zone stretching along the sea as well as to enhance the quality of life of the city at large. As post occupancy evaluation is considered an imperative part of any design process, eliciting user's satisfaction with and assessment of all projects' scopes and impacts on the community. The proposed research is an empirical investigation of people's evaluation of Jeddah's waterfront redevelopment project. The study will focus on two of the urban design dimensions: the visual and the social dimensions of the project. The proposed research will comprise two parts. Part I, a review of the changes introduced in the redevelopment project and their analysis and classification under the two investigated dimensions: the visual and the social as well as their overlapping features. An exploratory research phase will examine the changing visitors' frequency and length of stay before and after the redevelopment through available official statistics as an indicator of the project's impact on the community. A future phase II of the research will be a city wide survey of the city's inhabitants' evaluation of the project's visual dimensions as well as its social impact. It is expected that the study's results would present city officials, decision makers, urban developers and designers with in-depth informative conclusions that will guide future projects toward socially, culturally and economically sustainable and viable design solutions.

*Keywords: Urban Regeneration Projects, Waterfront Development, Public Social and Visual Assessment of Urban Design projects, Post Occupancy Evaluation of Urban Renewal projects*

**Dr. Azza Eleishe** is an Associate Professor of Architecture and Urbanism, currently teaching in the Architecture Department, at Dar Al Hekma University, Jeddah, KSA. Dr. Eleishe received her Ph.D in Architecture and Master's of Urban Planning from the University of Michigan, Ann Arbor, USA. Dr. Eleishe has taught history and theory of architecture, urban planning and urban design in various Middle Eastern countries including Egypt, UAE and KSA. She has extensively published and presented research papers in renowned International conferences. Her research interests include: Environmental Perception; Public Participation in Architecture and Planning; Post Occupancy Evaluation of Architectural and Urban project; Housing Studies and Policies in Developing Countries; Visual Assessment and Social Impact Assessment of architectural and urban design projects ; Heritage Conservation

## 8. Soil Organic Carbon in Godech Municipality, Western Bulgaria

Borislav Grigorov, Assen Assenov

### ABSTRACT:

The current study aims at examining soil organic carbon levels at the territory of Godech Municipality - one of the municipalities of Sofia Province, located in the western part of Bulgaria. The investigation includes information about some of the latest global studies, regarding soil organic carbon, including those, conducted on Bulgarian territory. Soil organic carbon plays a key role in overall carbon sequestration and it plays a key role for sustainable development. Global soil grids at 250 m resolution were used and datasets consist of prediction data about carbon contents in g per kg at the following depths: 0 cm, 5 cm, 15 cm, 30 cm, 60 cm, 100 cm and 200 cm. This data is analyzed and developed for the purposes of the current study. Generally, soil organic carbon contents in Godech Municipality decrease from north to south, with the largest carbon pool in Berkvoska Mountain. There is an increase of carbon stocks from subsoil to topsoil, which is consistent with other results. The outcomes of the study prove to be successful and they can be applied in other investigations of this subject.

*Keywords: carbon sequestration, soil organic carbon, sustainability*

**Borislav Grigorov** is in the Department of Landscape Ecology and Environmental Protection Faculty of Geology and Geography Sofia University "St.Kliment Ohridski" and participates in ecosystem research.

**Assen Assenov** is an associate professor, PhD in the Faculty of Geology and Geography of the Sofia University „St.Kliment Ohridski“ and works on environmental research.



## 9. Cultural Consumption as a Trait of a Sustainable Lifestyle: Evidences from the European Union

Calin Veghes

### ABSTRACT:

At a first sight, the consumption of cultural goods, services and events is expected to improve significantly the individual's wellbeing and quality of life and, reciprocally, an overall good quality of life should stimulate the cultural access, participation and consumption. A first evidence that things could stay differently comes from the European Union where, paradoxically, the relatively high overall quality of life does not correspond to a similar level of cultural access, participation and consumption. Are there significant connections between the consumption of cultural goods, services and events and the overall quality of life? Does cultural consumption contributes to a sound improvement of the individual's quality of life? May cultural consumption be defined as a trait of a sustainable lifestyle? These are the main questions this paper aims to answer based on the secondary data regarding the cultural access, participation and consumption and quality of life at the level of the European Union.

*Keywords: Cultural consumption, quality of life, sustainable development*

**Dr. Calin Veghes** is Professor of Direct Marketing and Cultural Marketing at the Bucharest University of Economic Studies, Romania. He carries out teaching and research in the area of Cultural Marketing aiming to substantiate that arts become culture through marketing and that cultural resources, properly preserved, restored, promoted and capitalized, can be successfully employed to support the sustainable development of the local communities. He is a member of EMAC (European Marketing Association), AMA (American Marketing Association) and ARMAD (Romanian Direct Marketing Association) and has a strong passion for history, cultural tourism and football (as a devoted fan of UTA Arad).

## 10. Urban Critical Infrastructures' Governance Framework for Climate Resilient Cities

Cinta Lomba, Leire Labaka, Josune Hernantes

### ABSTRACT:

Climate change affects cities worldwide conditioning their sustainable development. Cities will concentrate around 70% of the world population by 2050 accounting for 75% of the world's resources consumption. For that reason, cities must act against climate change adopting resilience strategies. Resilience strategies recognize the importance of the reliability and functioning of urban critical infrastructures as they provide essential services for the citizens and they are crucial for the resolution and recovery of the crises. However, the integration of critical infrastructures in the city resilience strategies is challenging because critical infrastructures are complex systems, strongly interconnected one to each other and generally, they belong or are operated by private companies. This research proposes a governance framework for better integration of the management of urban critical infrastructures into the city climate resilience strategy. The framework has been developed from academic literature and has been enriched with insights from workshops and interviews with experts and practitioners. As a result, the framework tackles four aspects of governance: (1) modes of governance; (2) stakeholders' roles; (3) processes and (4) instruments. These aspects will help to improve the vertical integration, cross-sectorial coordination, innovation and knowledge, and cooperation needed for improving city resilience.

*Keywords: City Resilience; Urban critical infrastructures; Governance Framework; Climate Change Adaptation*

**Cinta Lomba** is researcher and lecturer at TECNUN - University of Navarra, where she is PhD candidate.

She is an Industrial Automation and Electronics Engineer (Tecnun 2000) and holds a master's degree in Globalization and Development (UPV-EHU 2011). Her research interests include urban resilience and critical infrastructures in the context of climate change. Since 2015 she has participated in three research projects of national and European calls, three international conferences and has published one scientific article in the indexed journal Sustainability.

**Dr. Leire Labaka**, Industrial Engineer (2009, PhD 2013), is a professor of Business administration, Modelling and Simulation and Accounting and Finance at TECNUN - University of Navarra. Her research interests include resilience, critical infrastructures protection, climate change and complex modelling. She has taken part in UrbanKlima, ENGAGE, Smart Mature Resilience, SEMPOC and ELITE European projects. She has published several papers in conference proceedings as well as in journals such as Safety Science, Sustainable Cities and Society, Reliability Engineering and System Safety, Journal of Technological Forecasting and Social Change, and International Journal of Critical Infrastructures.

**Dr. Josune Hernantes**, Computer Science Engineer (2003, PhD 2008) is a professor of Computer Science at TECNUN - University of Navarra. Her research interests include resilience, information systems, complex systems modelling and crisis management. She has taken part in research projects about crisis management such as SEMPOC, ELITE or Smart Mature Resilience, and about climate change, UrbanKlima 2050, European projects. She has published several papers in conference proceedings as well as in journals such as Journal of Homeland Security and Emergency Management, Journal of Technological Forecasting and Social Change, International Journal of Critical Infrastructures and IEEE Software.

## 11. Is Homeworking a Better Option in the Digital Era? An Empirical Research across EU Member States

Daniela-Ileana Predeteanu-Dragne, Ion Tudor, Catalina Picu, Dan Popescu

### ABSTRACT:

The complex and also very dynamic progress of information and communication technologies (ICT) enabled workforce to become increasingly mobile. Therefore, the companies across the world have already adapted their work arrangements, offering more flexibility to their employees, to name just a few examples: homeworking, outsourcing, crowdsourcing, part-time work, temporary work, flexible working time. Our scientific approach represents an in-depth analysis of the homeworking trend within the EU Member States, by factors such as country and gender. It also examines the way ICT have evolved in enterprises across all Member States and provides specific trends per country. Moreover, the research presents a comparative study of how the ICT skills enabled by companies has evolved over the last years and improved employee's lives. The results of our approach show that work from home trends increased in all EU Member States in parallel with the development of digital skills. This fact forces the companies to be more competitive on the market in attracting and retaining employees. In practice, companies have to diversify their work programs and allow flexibility in terms of working schedules and actual location of work. On top of that, the management of each company must pay a special attention to develop the ICT skills, so that people are properly fit to perform efficiently and ensuring that the organizational performance is maintained at highest standards.

*Keywords: flexible workplace, work from home, information and communication technologies*

**Mrs. Daniela-Ileana Predeteanu-Dragne** is a PhD Student at the Bucharest University of Economic Studies in the field of Management. Her main research interests are related with Management and Organizational Communication. Her Doctoral Thesis is about Ways To Improve The Management Of Organizational Communication In Passenger Air Transport.

**Mr. Ion Tudor** is a PhD Student at the Bucharest University of Economic Studies in the field of Management. His main research interests are related with Management and Organizational Communication. His Doctoral Thesis is about Possibilities For Improving Organizational Communication In The Field Of Assistance Services.

**Dr. Catalina Picu** finished her PhD last year at the Bucharest University of Economic Studies in the field of Management. Her main research interests are related with Organizational Performance and Organizational Communication. Her Doctoral Thesis was about Ways To Increase Organizational Performance Through Improving Communication.

**Dr. Dan Popescu** is a Professor at the Bucharest University of Economic Studies, at the Management Department. He teaches Business Communication and Negotiation, International Business Communication and Simulations in Human Resources. His main research interest are related with Business Communication, Human Resources Management and Organizational Communication.

## 12. Improving Students' Professional Communication Abilities - A Part of Career Success?

Constantin-Iulian Tănașcu, Cristina State, Raluca-Elena Ghinea, Robert-Andrei Costache

### ABSTRACT:

Communication is the essence of interpersonal relations. The outcomes of all the activities we carry out depend on how we communicate, and in spite of the fact that it is essential that we prove our communication skills, we are poorer and poorer at doing so. The motivation behind our research was that we refuse to passively witness the increasingly unsatisfactory behaviour of the future graduates of our University. Our study aims at revealing whether and to what extent young graduates of Romanian universities are aware of the importance of acquiring, practising and improving their communication skills, the more so that such abilities are decisive when it comes to achieving success in one's career. The research "Improving students' professional communication abilities - a part of career success?" was conducted between 2-13 May, 2018 on the basis of an online questionnaire available at <https://www.isondaje.ro/sondaj/591105696/>. The research methodology used in order to achieve the objectives formulated in the study consists in quantitative research. The results show that the future university graduates are not stimulated to become aware of the importance of developing their communication and negotiation skills or to actively participate in various forms of scientific interaction such as national or international scientific sessions, round tables, etc.

*Keywords: communication skills, negotiation skills, interpersonal relations, graduates, career*

**Mr. Constantin-Iulian Tănașcu** is a PhD Student at the Bucharest University of Economic Studies in the field of Management. His Doctoral Thesis is related with Migration or Brain-Drain - Current Trends At European Level And Their Economic-Social Impact On Romania.

**Dr. Cristina State** is a Lecturer at the Bucharest University of Economic Studies. Her main research interests are related with Business Communication, Organizational Communication and Human Resource Management.

**Ms. Raluca-Elena Ghinea** is a MA Student at the Bucharest University of Economic Studies, Management Faculty. She studies at the Small and Medium Enterprises Management - MA Program.

**Mr. Robert-Andrei Costache** is a MA Student at the Bucharest University of Economic Studies, Management Faculty. He studies at the International Management and Marketing - MA Program.

## 13. Growing the Sustainability of Social Economy Enterprises through Volunteering

Ion Tudor, Daniela-Ileana Predeteanu-Dragne, Florina-Valentina Nicolae, Cristina State

### ABSTRACT:

Our study is about the perception of people towards volunteering, in order to propose solutions for the improvement of the management for the sustainability of social economy enterprises. The question we want to answer in our paper refers to the availability of the subjects to participate in voluntary activities to ensure the sustainability of social economy enterprise. This question became the main objective of our study. To answer this question we conducted a survey based on a questionnaire in a micro-community from the Centre Region of Romania. Combining the quantitative and qualitative methods, thus ensuring the in-depth interpretation of the study results, the work hypotheses were tested with the IBM Statistics and AtlasTi applications. The results of our study confirm that the subjects surveyed are willing to take the responsibility of engaging in volunteering for the benefit of individuals or the community, thereby contributing to the creation of tangible economic and social values for the community. Finally, we conclude that involving individuals in volunteering activities can be a valuable piece of information for the managers of social enterprises in order to obtain a competitive advantage that can be materialized in the utility of the work, the personal satisfaction because of what they do, the integration into community, etc.

*Keywords: improving management, communities, social economy enterprise, solidarity, volunteering*

**Mr. Ion Tudor** is a PhD Student at the Bucharest University of Economic Studies in the field of Management. His main research interests are related with Management and Organizational Communication. His Doctoral Thesis is about Possibilities For Improving Organizational Communication In The Field Of Assistance Services.

**Mrs. Daniela-Ileana Predeteanu-Dragne** is a PhD Student at the Bucharest University of Economic Studies in the field of Management. Her main research interests are related with Management and Organizational Communication. Her Doctoral Thesis is about Ways To Improve The Management Of Organizational Communication In Passenger Air Transport.

**Dr. Florina-Valentina Nicolae** graduated her PhD at the Bucharest University of Economic Studies in the field of Management. Her main research interests are related with Management and Social Economy.

**Dr. Cristina State** is a Lecturer at the Bucharest University of Economic Studies. Her main research interests are related with Business Communication, Organizational Communication and Human Resource Management.

## 14. Geological- and Chemical-Based Anthropogenic Environmental Risk Factor Sustainability Model

Daniel T. Rogers

### ABSTRACT:

An environmental sustainability model that integrates natural and anthropogenic risk factors was developed and tested for 10 years. The model is composed of calculated geological risk factors, chemical risk factors, and anthropogenic operational aspects of environmental regulatory requirements which were integrated into a comprehensive environmental sustainability model. The model was tested at 67 operating industrial manufacturing facilities in 12 countries over a period of 10 years. The results achieved included measured reductions of environmental impacts to air, land, and water from 5% to more than 95% of anthropogenic operational aspects compared to pre-model values. A significant catalyst for model success was identifying and applying innovative leadership and management principles that were required to modify business objectives and culture from purely capitalist incentives and objectives to sustainability-oriented goals. This was accomplished through a clear and understandable model; stated objectives; incentives, rewards and penalties; measuring results, data analysis; identifying and communicating areas where improvement was needed, model adaptations, transparent communication and feedback, and flexible timelines. The results indicate that the model can be scaled from the parcel to global level assuming management and leadership principles are in place and properly supported.

*Keywords: Sustainability Model, Geologic Risk, Chemical Risk, Anthropogenic Impacts*

**Mr. Daniel T. Rogers** is the Director – Environmental Affairs at Amsted Industries Incorporated in Chicago, Illinois. Amsted Industries is a diversified manufacturing company of industrial components serving railroad, vehicular, construction and building markets. Amsted Industries has more than 60 manufacturing locations in 15 countries. Mr. Rogers has published nearly 100 research papers in professional and academic publications and peer-reviewed journals on subjects including environmental geology, hydrogeology, geologic vulnerability and mapping, contaminant fate and transport, urban geology, environmental site investigations, contaminant risk, brownfield re-development, remediation, pollution prevention, environmental compliance, and sustainability. He has authored *Urban Watersheds: Geology, Contamination, Environmental Regulations, and Sustainability* (2020), *Environmental Compliance and Sustainability: Global Challenges and Perspectives* (2019), and is also the author of *Environmental Geology of Metropolitan Detroit* (1996). Mr. Rogers has published surficial geologic and contaminant vulnerability maps of the Rouge River watershed in southeastern Michigan. He is a contributing author of *The Encyclopedia of Global Social Issues* (2013), *Urban Groundwater* (2007), *Geoenvironmental Mapping* (2002), and *Groundwater in the Urban Environment* (1997). He has taught geology and environmental chemistry at Eastern Michigan University and the University of Michigan and has presented guest lectures at numerous colleges and universities in the United States and internationally.

## 15. The Possibilities of Modifying the Setpoint Temperatures to Reduce the Energy Consumption of HVAC

David Bienvenido-Huertas

### **ABSTRACT:**

High emissions of Greenhouse Gases (GHG) are one of the main problems of the society of the 21st century. GHG are generating more and more extreme living conditions, so GHG emissions should be reduced. To reduce GHG emissions, energy consumption in various sectors must be reduced. Regarding buildings, their high energy consumption is mainly responsible for the use of HVAC systems. This consumption depends on the use of the setpoint temperatures of the users. For this reason, this study analyzes the potential of the energy saving achieved using different setpoint temperatures. For this, the use of thermal comfort models are used. These setpoint temperatures based on different thermal comfort models as energy conservation measures have been analyzed in previous studies. A total of 5 building models were analyzed in this study. The results were obtained through a simulation process performed with the EnergyPlus calculation engine. The energy consumption obtained with new setpoint temperatures was compared to that obtained using typical setpoint temperatures. The results reflected the potential for the energy saving obtained by using adaptive setpoint temperatures in the 5 building models.

*Keywords: setpoint temperature, adaptive thermal comfort, consumption, building, HVAC system*

**Dar. David Bienvenido-Huertas** is a researcher at the University of Seville. My main areas are thermal comfort and energy efficiency.

## 16. On the World Co2 Emission Equitable Transition Design and its Implementation: Theory and Empirical Data

Demetrio Miloslavo Bova

### ABSTRACT:

This paper designs the transition trajectory for Co2 emissions that considers the impact on inequality both across countries and generations and introduces elements for its implementation. The intercountry and intergenerational equities are discussed and found, for the first, in terms of equal cumulated per capita emissions, for the second, both in terms of temperature growth control and capacity to ensure an equal future yearly amount of emission per generation. These definitions allow enquiring which country is behaving fairly and, consequently, which system may be introduced to compensate. Once the emission trajectory is defined, its implementation and the deviances management can be structured through a quasi-decentralised dynamic cap and trade system. Theory and empirical data for the design and its management are provided.

*Keywords: Equitable transition, Inequality of transition, Co2 emissions, Climate justice, Quasi-decentralised dynamic cap and trade*

**Dr. Demetrio Miloslavo Bova** is a Ph.D. candidate at the university of Warsaw in economics and a consultant for the equitable and sustainable wellbeing measurement for towns. He published "Guida al rapporto BES organico per comuni", Franco Angeli editore, that is the first handbook for the equitable and sustainable wellbeing measurement at local level in Italy. His research is based on ethics, sustainability and economics and is directed to indicators for the progress of societies.



## 17. Potential Carbon Absorption during Riparian Reforestation Project in the Ili River Delta (Kazakhstan)

Dmitrii Zamolodchikov, Oksana Lipka, Kaganov Vladimir

### ABSTRACT:

The projection of carbon effects from partial reforestation of delta of river Ili (Kazakhstan) in frame of project on restoration of riparian forests and reintroduction of Caspian tiger is developed. Typical values of carbon sequestration by biomass of stands are calculated for tree species, native at studied area (*Populus diversifolia* Schrenk, *Elaeagnus oxycarpa* Schltdl., *Salix alba* L.). The carbon sequestration is projected for 30 years with reforestation, performed at area 200 thousands of ha. This area is subdivided by tree species as follow: *P. diversifolia* at good conditions - 15%; *P. diversifolia* at normal conditions - 15%; *E. oxycarpa* - 60%; *S. alba* - 10%. The total area will be completely planted during 12 years with equal annual rates 8.3%, correspondent to 16677 ha per years. The annual sequestration is increased from 1.3 thous. t C/year at first year of project to maximal 471 thous. t C/year at 18th year of project rolling, then is decreased to 92 thous. t C/year at 30th year. Total accumulation of carbon by stand biomass during 30 years is 6.99 mln. t C (25.64 mln. t CO<sub>2</sub>). The carbon accumulation is important component of ecosystem services, which can be restored due to the project implementation.

*Keywords: Reforestation, riparian forests, carbon sequestration, tree biomass, projection*

**Dmitrii Zamolodchikov**, main scientific researcher Center for Ecology and Production of Forests of Russian Academy of Sciences. D. Zamolodchikov is known expert in biogeochemical cycles and Climate Change influence on terrestrial ecosystems. His scientific publications contain set of important findings: data on carbon balance for local forest and tundra ecosystems, introduction of concept of threshold temperature for sign of carbon balance, conceptual model of temperature influence on CO<sub>2</sub> exchange in tundra, system of methods for converting of forest inventory data to carbon values, whole country carbon budgets for Russian forests and tundra. He published more than 340 printed works, including 10 monographs, more than 100 papers in Russian and international peer-reviewed journals. His publication is well known in Russia and world, his methods are used in National Cadaster of Green House Gases. In 2006-2015 D. Zamolodchikov was expert of Russian delegation in UNFCCC negotiations, participated lot of COP and SB negotiation sessions. He is deputy editor on chief of scientific journal "Russian Forest Science", member of 4 scientific councils in different Russian institutions.

**Dr. Oksana Lipka**, Yu. A. Izrael Institute of Global Climate and Ecology, Lead Researcher. In 2011-2019 used to work in WWF-Russia as a coordinator of the Climate and Energy programme. Main fields of investigations: climate change adaptation, ecosystem dynamic. Education: Moscow State University of Lomonosov, Geography department, chair of Biogeography. Profession: a biogeographer. Currently: an IPCC Lead Author for 6th Assessment Report, Working Group II (Impacts, Adaptation, Vulnerability). In 2016-2018 - an IPBES Lead Author for Europe and Central Asia Regional Assessment. The work is dedicated to climate vulnerability assessments for natural systems and human assets in different regions in Russia and Central Asia, identification of the most vulnerable objects, species and ecosystems. The goal is to develop climate adaptation plans for vulnerable territories, Protected Areas, species. The process includes the participation of local communities, especially indigenous people, Authorities and researches. Main issues: ecosystem-based adaptation, community-based adaptation, mitigation, nature conservation, sustainable land use, forest and water management by different stakeholders.

**Kaganov Vladimir** is young researcher of Center for Ecology and Production of Forests of Russian Academy of Sciences. His scientific interests include reforestation in arid lands, carbon fluxes in temperate and tropical forests, structure and functioning of forest soils.

## 18. Universities of the Third Age as a Method of Education and Gerontological Prevention

Dorota Rynkowska

### ABSTRACT:

The process of rapid aging leads to huge transformations in many areas of life - politics, economy, culture, education, medical and care services, which in turn shapes the future of us all. An active lifestyle, education and development of geriatric care are undoubtedly elements that will affect the better health and well-being of seniors. The increasing number of older people, caused inter alia by the increase in the average life expectancy, current trends in terms of fertility, migration and mortality, force the development of a new vision of the functioning of seniors and their social roles in the changing social reality. Universities of the Third Age are one such area of activity and cooperation of older people. Universities of the Third Age are an international initiative proposing to continue learning throughout life (lifelong learning). Universities of the Third Age are adult education institutions whose program offers are targeted at seniors. They were created in response to rapidly occurring socio-demographic changes in society. They are part of the concept of lifelong learning, where education in modern gerontology is treated as a process enabling seniors to develop comprehensively, control their own lives, activity in late adulthood, and to develop and deepen their interests. The goal of senior education is striving for their independence and development, and education is a prerequisite for maintaining good psychophysical condition. The purpose of this article is to attempt to bring the idea of the functioning of Universities of the Third Age as an unquestionable need to support seniors in the field of education and adaptation to old age.

*Keywords: Seniors, activity, gerontological education*

**Dorota Rynkowska**, PhD, is a Assistant Professor at the Institute of Sociology, University of Rzeszow, Poland. She is sociologist. Author of 2 monographs, co-author of 3 monographs, autor and co-author of more than 40 articles in journals and chapters in monographs. Her scientific and research interests include issues related to the sociology of old age, an aging society, and the issues of care and social work.

## 19. Acceptance of the Abolition of New Year's Eve Fireworks: A Theoretical and Empirical Analysis under the Aspect of Sustainability

Wanja Wellbrock, Daniela Ludin, Erika Müller, Wolfgang Gerstlberger

### ABSTRACT:

Actually, discussions about a prohibition of fireworks are becoming more and more fluent. This topic is discussed in this paper in an empirically comprehensible manner, including sustainability aspects. The aim of the paper is to determine to what extent fireworks are harmful to people and the environment and under what circumstances citizens are prepared to dispense New Year's Eve fireworks. At the same time, it is unclear who is responsible for these issues. Politics are often blamed for solving problems like this, especially when there is no clear opinion in society. On the other hand, political intervention is in clear conflict with the free market economy and the independent economic actions of individuals. The study is based on a survey carried out in the city of Schwäbisch Hall. A valid database was created to achieve trustful data. The definition of concrete recommendations for action that can be applied in Schwäbisch Hall is another result of this paper.

*Keywords: Fireworks, sustainability, politics, economics*

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- Prof. Dr. Daniela Ludin**, since 2015, holds the professorship for General Business Administration at Heilbronn University. The principle of sustainability is a central element in their courses. Since 2017, Prof. Dr. Daniela Ludin leads the course B.A. Management & Procurement Management (MBW); since 2019 also the course B.A. Sustainable Procurement Economics (NBW). Prof. Dr. Daniela Ludin is also a member of the Council for Sustainable Development at Heilbronn University, which she is heading as sustainability officer since 2019. Before her time at Heilbronn University, Prof. Dr. Daniela Ludin worked from 2009 to 2015 at the Rottenburg University of Applied Sciences with a professorship for law, environmental and forestry policy. The main research areas of Prof. Dr. Daniela Ludin are sustainable procurement management, sustainable mobility, sustainable consumption, sustainable financial products and sustainable data management.

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**Prof. Dr. Wolfgang Gerstlberger** is currently Professor for Operations Management at Tallinn University of Technology. Previously, he was an Associate Professor for Innovation Management at the University of Southern Denmark in Odense and endowed Professor for Innovation Management and SME Research at the International University Institute of the Technical University of Dresden. Professor Gerstlberger received his doctorate from the University of Kassel and also habilitated in the field of general business administration. In addition, he has led and carried out numerous freelance innovation and sustainability projects for companies, the EU, associations and public administration organizations. His current research interests are in the areas of sustainable innovation and operations management, digitalization and sustainable logistics.

## 20. Evaluation of the Barrier-Free Tourism and Sustainability of the Barrier-Free Society in Cyprus

Fahriye Altınay, Zehrat Altınay, Mehmet Altınay, Gokmen Dagli

### ABSTRACT:

The main aim of the current study is to evaluate the opinions of the students at the departments of tourism and special education towards the concept of sustainability of barrier-free tourism and society therefore with the light of this aim, and current study attempted to address how disabled individuals could have an access to the tourism and life opportunities as well as the challenges that they are experiencing while having an access to these opportunities, probable solutions which might be employed to cope with these challenges, universal rights of the disabled individuals about having an access and transportation in contexts barrier-free tourism practices in TRNC. The current study employed a semi-structured interview as a data collection tool. The study group of the current research consisted of 80 participants who are the students at the tourism and specialized education teaching departments at Near East University and the University of Kyrenia. Data were collected with 20 minutes face to face interviews. While performing data analysis, responses of the participants were categorized and placed to the tables and then the researcher(s) re-examined the classified data set and formed underlying themes and categories. With the light of the findings, it can be stated that education at universities, secondary and primary schools should be intensified to inject necessary information to the students regarding barrier free tourism and provision of health care services for disabled people. At the referred point, joint commitment should be carried among ministry of education, tourism, health and municipalities to raise public awareness regarding barrier free tourism. Additionally media and press should design more programs regarding barrier free tourism at their broadcasting stream to raise public awareness, and in-service trainings for disabled people should be provided to employees in hotels.

*Keywords: Barrier- Free Tourism, Sustainable Society, Education, Accessibility, Awareness*

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## 21. The Role of Sensitivity Training for Managing Diversities in Sustainable Smart Societies

Ceren Karaatmaca, Fahriye Altinay, Zehrat Altinay, Gokmen Dagli

### ABSTRACT:

Entrepreneurial attempts play a key role to make behaviors in a global connected context. In this attempt, it is crucial to manage diversities and extend the capacity of the understanding and knowledge on the sensitivity for making sustainable and smart societies. This research aims to evaluate the perceptions of members of Non-Government Organizations (NGOs) on sensitivity training and sheds a light on description, content and benefits on sensitivity and its' training in order to create mutual understanding from life experiences on different types of NGOs. As qualitative research was employed in this research, interview and word association methods were used as data collection methods. As the study group, 35 members of various NGOs participated the research and their reflections on sensitivity training as a managerial and organizational perspective were analyzed using interview and word association methods coding through content analysis. In this respect, for data analysis, computer-aided qualitative data analysis software (RQDA) was conducted that R package was used. This research revealed firstly that the most frequently mentioned words for sensitivity definition were empathy which is related with interpersonal relationships and emotional intelligence (EQ); self-knowledge which is related with awareness and conscious; and the viewpoints of oneself like perception and bias. Secondly, to examine the suggestions of the different NGO participants suggesting the managers for raising awareness on sensitivity among their employers in a workplace, themes were identified as managers' own personal approach that is being their own example, trainings and the approach of the human resources department. Thirdly, the benefits of an education for sensitivity skill to sustainable smart societies for global citizenship and its contribution to the development of the sustainable smart societies are overlooked. The main themes were collected under the headings of communication, productivity and respected organization. In the light of the findings it can be stated that with sensitivity training in the workplace, social relations and group atmosphere improve and at the referred point, when benefits of sensitivity training is overlooked, very useful results are reached for individuals, groups and organizations that are directly related for sustainable and smart societies. The sensitivity training is an activity to determine the tasks to be carried out in order to achieve certain goals, to determine the personnel to perform this function, to determine the competencies and responsibilities and organizational relations of global citizens in smart societies.

*Keywords: Empathy, global citizenship, management sensitivity, smart society, training*

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## 22. Cities for People; the Dependency and Impact of Automobile in the Life of City Dwellers

Francis Ogochukwu Okeke, Andy E. Okosun, Clifford A. Udeh, Chukwumezie J. Okekeogbu

### ABSTRACT:

Almost like a plough breaking the plains, automobile has transformed many Nigerian cities. Cars have reshaped the nation's landscape, making it virtually unrecognizable from the unpaved version of the previous centuries. Nothing better reveals the growing dominance of automobile than their imprints on the patterns of urban land use. However, the invention of the mass-produced automobile was a breakthrough in mobility and comfort; the modern consequences of its heavy use has led to a dramatic increase in accident death rate, the use of fossil fuels, social isolation, community disconnection, an increase in obesity, environmental pollution, urban sprawl and urban decay. This research, therefore provides an insight into some of the causes of over-dependence on automobile and its impact on the lives of city dwellers using Achara Layout in Enugu as a case study. The target goal is to proffer solution to remedy this obvious lack of foresight on urban transportation system. Using a descriptive research method that utilizes both primary and secondary data, the study through surveys, x-rayed why the increase in automobile dependence. Furthermore, it reveals that although the use of automobile is advantageous, the consequence of over dependency is far more overwhelming. The research results note that four fundamental policies will address successfully and specifically automobile dependency imposed by local conditions. It concludes that the gross accommodation of urban land to automobile be redressed and the expensive sterility of excessive motorized traffic be eliminated and advocates for an eco-friendly alternative means of city transportation.

*Keywords: Urban, Automobile Dependency, Planning, City Dwellers, Transportation*

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## 23. Ethnocentrism in Polish Consumer' Food Behaviour as a Determinant of Short Supply Chains Development

Gabriela Hanus

### ABSTRACT:

The main purpose of this research is to present the phenomenon of ethnocentrism in the food behaviour of Poles as a possible determinant of the development of short supply chain. For this purpose, primary and secondary tests were carried out. The primary studies examine the level of ethnocentrism in the food behaviour of Poles, while secondary data analysis focuses on finding a relation between this phenomenon and the development of short supply chains. The primary source of the survey are the results of an online and distributed survey covering the whole Poland. A total of 660 people took part in the study. The main secondary sources used in the work are the latest publications in peer-reviewed scientific journals. Across the studies covered by this paper it was found that ethnocentrism is clearly visible in the food behaviours of Poles and it might have significant influence on the development of short supply chains.

*Keywords: ethnocentrism, short supply chain, food behaviour*

**Gabriela Hanus**, PhD, from 2019 employee of University of Economics in Katowice. PhD thesis on new trends in the consumption of food products and the food behaviour of Poles, defended in June 2019. She is interested in the impact of new trends in consumer behaviour on the development of various industries, including food, catering and, recently, logistics.

## 24. Regional Disparities in Turkey: A Socio-Economic Perspective

Hacer Simay Karaalp-Orhan

### ABSTRACT:

Economic development, for any country, is one of the most important objectives to be achieved. However, some regions with better economical, geographical, historical, social and cultural advantages with suitable demographic structure can grow faster than the others. Accordingly, while certain cities and regions become centers of attraction for production and workforce, they increase capital accumulation and labour flow and lead to agglomerate economic activities. On the other hand, backward regions can be impulsive for capital and workforce and then create labour outflows/migration. Although it is observed in many countries, Turkey struggles against a persistent economic development problem among regions for many years. Regional inequality is one of Turkey's structural problems. Development differences across regions of Turkey are mostly observed in east-west and coast-inland. According to the OECD data, in 2018 Turkey has the largest regional disparities in terms of GDP per capita across small regions. In Turkey, while the efforts continue to increase the pace of industrialization increase in terms of job creation and sustainable development, the inter-regional distribution of economic activities has been debated. In this context, the aim of this study is to analyze the regional inequalities in Turkey under the scope of the share of regions in GDP of turkey, distribution of industrialization, labour market indicators, migration and poverty.

*Keywords: Regional disparities, regional development, socio-economic indicators, Turkey*

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## 25. Dynamic of Domes and Minarets Monumental and Benefit from Them in Designing Architectural Ceramic Unit's Multi - Purpose

Hend Elbadry Azaz

### **ABSTRACT:**

Research on heritage is one of the most important axes that present itself in the framework of preserving identity in the face of currents of modern world culture, which tries to blur all that characterizes the local character and culture inherited. There is a significant relationship between the architectural artist and his relation to his environment, which is determined in the house and the house of worship, where it becomes an integral part of him and his soul which produced the data of that environment through religion, which led the researcher to address the artistic values associated with the art of some architectural forms, analysis and study creativity and the creation of related ceramics Heritage. The researcher found in the domes a good material for study because of the different forms and patterns in the surface and in the form of external and internal, and the minaret is a component of architecture because the composition of the composite consists of different sizes grow up to achieve this wonderful harmony of the base and the body The end, and appeared on the walls and balconies carved carvings of stone, which gave a beautiful handkerchief paper through the composite surface. The muqarnas are the most familiar elements in Arab architecture. The Arab architects had to use the engineering methods in their design and implementation and the connection between the various surfaces represented by the nature of the muqarnas. It is a dynamic thought that can be utilized through an experimental framework to find abstract entrances using the effects of light, From the dynamic movement of inspiration, which helps to create entrances and solutions in the form of plastic stereotyping. Research problem: -How can the dynamics of domes and minarets be exploited in the production of multi-purpose architectural ceramics?

*Keywords: dynamic, domes, minarets monumental, architectural ceramic units, multipurpose*

**Hend Elbadry Azaz** is a doctor in Faculty of Specific Education, Department of Art Education, Ceramics Instructor in University of Alexandria. Interested in Sculpting and Pottery.

## 26. Complexity of North-South Technology Transfer: Lessons from a Renewable Energy Project in Frontier Markets

Hendrika Adriana (Henny) Romijn, Aziiz Sutrisno, Patrick P.A.J. van Schijndel, Alula Y. Tadesse

### ABSTRACT:

**Context:** Large-scale international transfer of clean technologies is conceived as a crucial condition for reaching the 2015 Paris Climate Agreement goal. Many donor agencies are financing international collaboration projects aimed at renewable energy technology transfer, hoping that developing countries will leapfrog to these energy sources. **Problem statement:** However, many such projects exhibit implementation difficulties. This paper discusses one such project, financed by a European Aid. It aims at building technological capacities in two universities in African developing countries, facilitated by a European university. The paper discusses practical issues in organization, procurement, communication, and culture, encountered during project execution. Broader reflection strongly suggests that many issues occur more widely in international aid projects. This makes it important to draw broader lessons about how to mitigate typical pitfalls in cleantech projects in developing countries. **Method:** The conceptual framework draws on studies about technological capability building in Global South countries, management of aid projects and public administration. The empirical information comes from the authors' personal involvement in the project. **Results:** Key barriers to project success identified are: (1) cultural differences in the conduct of managerial processes, (2) organizational misalignment between partners, (3) differences in expectations regarding the technical level, (4) tensions arising from emphasis on short-term quantitative targets.

*Keywords: International technology transfer; renewables; capacity building; development aid; least developed countries; development project management*

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## 27. The Solution to Safety Crisis in Railways after Privatisation

Hiroki Ito

### ABSTRACT:

Privatisation of infrastructure is expected to improve effectiveness of operation, whereas it is possible to cause excessive rationalization. Especially in the field of railways, excessive rationalization causes fewer investments in maintenance of assets, and undermines the safety. Railways play a critical role to develop economy in a sustainable way and have a huge impact in the region, so their safety must be prioritised. In fact, the UK government privatised British Rail and founded Railtrack, which was specialised in the railway track maintenance, but the Hatfield accident raised awareness for safety and led to the renationalising Railtrack into Network Rail. Likewise, in Japan, National Railways was privatised and divided into separate companies (JR), but among them JR Hokkaido has been causing a large number of accidents and troubles. Based on the review of the process and outcomes of the privatisation of railways in the UK and Japan, this paper discusses the way to improve their safety sustainably. In conclusion, it validates the intervention of governments in railway companies suffering from poor financial health.

*Keywords: Privatisation, Railways, Safety, British Rail, Railtrack, Network Rail, Governmental intervention*

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## 28. Certain Aspects of Litigation in Cassation Instance in Securing a Fair Trial

Inga Kudeikina, Sandra Kaija

### ABSTRACT:

The right of a person to a fair trial is absolute. This right has a long democratic history, without which no democratic society can be imagined. Without this constitutional scope, the right to a fair trial is the basis for the sustainable development of society, as it ensures legal stability, such a fundamental value as the right to protection of property. Litigation in the cassation instance is on the top of right-to-court pyramid. Firstly, the cassation instance is the last instance in the national judicial system, the decisions of the cassation instance are not subject to appeal; secondly, the court ruling in the cassation instance constitute case law, which is an important auxiliary source of law. This confirms that litigation in the cassation instance is one of the most important tools in securing the right to have a court hearing. The extent of the quality of the legal framework regulating cassation litigation points to the right to a fair trial overall. The study focuses on the issues of cassation litigation. The issues of the right of parties to file a cassation appeal (cassation protest) in civil and criminal cases as well as the jurisdiction of the court in deciding the admissibility of a cassation appeal (cassation protest) are analyzed within the multidisciplinary perspective. The aim of the research is to study the legal framework, which determines the right of a party to submit a cassation appeal (cassation protest) in civil and criminal case in the context of court jurisdiction, when deciding on whether to adopt it in order to make proposals for enhancement of the legal framework. There were used the descriptive, analytical and deduction-induction methods as well as the methods of interpretation of legal norms. Using these methods, legislation and the views of legal scholars were analyzed, and conclusions were drawn. As a result of the study, the authors drew the following conclusions: 1) the independence of the court in deciding whether to accept an appeal in cassation and the right of a person to a fair trial are not competing principles of law; 2) when deciding on the acceptance of a cassation appeal, the court of the cassation instance may not, as a matter of priority, follow the principle of the procedural economy. The principle of the procedural economy is subordinate to the right of a person to a fair trial. Cassation litigation is the last instance in the national judicial system when the right-holder can be assured that his or her case is considered in a fair trial. The cassation instance shall, in essence, provide a convincing and legally sound answer as to the legality and validity of the judgment given in a particular case affecting the rights and interests of a particular person. Consequently, the cassation instance process must be absolutely clear, reliable and credible. On such grounds, the supremacy of the procedural economy in the cassation instance is not permissible, which is why the development of the legal framework should be directed towards strengthening the rights of the individual.

*Keywords: cassation, court proceedings, right to a fair trial*

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## 29. Forms and Consequences of the Cyber Threats and Extortion Phenomenon

Ioana VasIU, Lucian VasIU

### ABSTRACT:

Cyber threats and extortionate communications are intended to influence or gain compliance from victims. The phenomenon includes a wide range of behaviors, such as intimate partner violence (IPV); violence against women and girls (VAWG); cyber dating abuse (CDA); cyber sexual harassment (CSH); sexual coercion and extortion (SCE); etc. The current scale, scope, and challenges posed by the phenomenon cannot be overstated. The consequences of these offenses negatively affect the social-cultural sustainability in a number of ways, as they can affect gender equality, victims' opportunities to achieve their potential, and can even impact the rule of law and democracy. Further, the victimization is also linked to personal insecurity, mental and physical health, work or school performance, and may represent a high financial burden. An analysis of the nature and extent of cyber extortion and threat is an essential component in the design of prevention and control strategies. This research aims to provide an in-depth examination of cyber threats and extortion phenomenon. The approach is empirically-driven, based on a large corpus of data, consisting mostly of cases brought to the courts of law. The article provides a comprehensive description of the characteristics of the phenomenon, including forms, prevalence, communication vectors, consequences for victims, and individual or group characteristics, explanations, and motivation. The article concludes with recommendations for effectively addressing the phenomenon.

*Keywords: Cybercrime, Extortion, Speech, Threats, Malware, Violence*

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**Lucian VasIU**, Ph.D., MBA, is a computer scientist, expert in information systems security and cybercrime prevention.

## 30. Assessing the Impact of Social Innovation Education on Primary and Secondary Education Students

Irene Kalemaki, Ioanna Garefi, Aristidis Protopsaltis

### ABSTRACT:

This paper presents the findings of the H2020 NEMESIS project that aims to design, test and validate a consolidated approach for embedding Social Innovation in Education. Social Innovation Education (SIE) is a new educational approach that aims to empower students to take action for a more democratic and sustainable society. During academic year 2018-2019, eight schools from five European countries participated in NEMESIS by involving 56 teachers, 1030 students and 69 community members in a variety of SIE approaches. This paper reports on these attempts with a particular focus on analyzing their impact on student's engagement and competence development. Data were retrieved through focus groups with 80 people, an online survey to 206 students, interviews, classroom observations and students' narratives. Research findings suggested positive outcomes for students in terms of emotional, cognitive, behavioural and agentic engagement. Findings also showed a positive influence of SIE on the cultivation and progression of students' social innovation competences. These initial findings have the potential to pave the way for more research in the under investigated field of SIE as well as to encourage policies and initiatives for promoting social innovation in education.

*Keywords: Competences, Education, Engagement, Social Innovation*

**Ms. Irene Kalemaki** is a PHD candidate in the University of Macedonia, Thessaloniki, Greece. As part of her PHD research she is focusing on the educational systems of some countries from the Balkan region investigating their contribution on innovation and social innovation. In 2017, she co-founded "Stimmuli" a social innovation research organization while the last 8 years she works as a researcher in numerous research and innovation projects for a variety of EC DG's.

**Ms. Ioanna Garefi** is a Research and Innovation Policy Analyst and co-founder of Stimmuli. Since 2006 she has been involved with studies and projects addressing the evolution of research, technological development and innovation on regional, national and European level. She has coordinated and participated in various European and national programmes and has considerable experience as a project manager in EC research activities.

**Dr. Aristidis Protopsaltis** is a senior researcher at the Institut für Learn-Innovation, Friedrich-Alexander-Universität, Germany. His background is in Cognitive Science, Serious Games, and ICT and Education. He was a researcher at the Serious Games Institute and he developed one of the First MScs in Serious Games in Europe. He has published numerous peer-reviewed conference and journal papers, and served as a program committee member and general co-chair in several conferences.

## 31. Designing and Implementing Sustainability: An Integrative Framework for Integrating Global Sustainable Development Goals

Jan Beyne, Wayne Visser

### ABSTRACT:

This paper introduces an integrative framework of sustainability design and implementation. A review of sustainability and change management literature provides the background to develop a multiple case study. The resulting integrative framework, based on this multiple case study, the Integrated Value Model and Lewin's change model, highlights four stages that span seven steps of the sustainability design and implementation process with special attention for integrating the UN Sustainable Development Goals (SDGs). Finally, the paper identifies critical success factors for the sustainability integration practices: the ability and openness for change management, skills & knowledge (sustainability intelligence) and the adoption of the SDG framework.

*Keywords: Sustainability integration; sustainable intelligence; change management; SDGs*

**Mr. Jan Beyne** is research fellow at Antwerp Management School, Belgium. Jan has been working on sustainable development topics, corporate social responsibility and sustainable urban policy, during the past 7 years. He holds a Master in Social Economic Sciences and an advanced Master Diplomacy & International Relations at the University of Antwerp. From 2013 to 2018, Jan was Program Manager at CIFAL Flanders, a new UN training center in Flanders to promote the UN Sustainable Development Goals (or SDGs) ([www.cifal-flanders.org](http://www.cifal-flanders.org)). CIFAL Flanders is part of the CIFAL Global Network, a network of 17 training centers from UNITAR, the United Nations Institute for Training and Research (UNITAR) in Geneva. During the past years, Jan gained experience in strategic sustainability advice and creative change management. In November 2018, Jan joined the Sustainable Transformation Lab of Antwerp Management School, where he combines research and training in function of sustainable transformation projects. Jan is currently doing a doctoral study on the integration of sustainability practices in organizations. (<https://www.antwerpmanagementschool.be/en/research/sustainable-transformation>).

**Prof. Dr. Wayne Visser** is a globally recognized 'pracademic', listed as one of the world's Top 10 most influential faculty thinkers on issues of responsible business in social media, a top 100 influencer on CSR and sustainable business, a top 100 thought-leader in trustworthy business and a top 100 sustainability leader. Dr Visser is the author of 37 books and his work as a strategy analyst, sustainability advisor, CSR expert, futurist, filmmaker and professional speaker has taken him to 77 countries in the past 30 years. Dr Visser currently serves Professor of Integrated Value at Antwerp Management School, where he also holds the Chair in Sustainable Transformation, supported by BASF, Port of Antwerp and Randstad. He is a Head Tutor and Fellow of the University of Cambridge Institute for Sustainability Leadership, Director of the think-tank and media company, Kaleidoscope Futures and Founder of CSR International. Previous roles were as Director of Sustainability Services for KPMG and Strategy Analyst for Capgemini in South Africa.

## 32. Sustainable Public Spending Through Blockchain

Judit Glavanits

**ABSTRACT:**

Blockchain technology and its industrial use cases can be detected worldwide. It is time for the state to think about the blockchain as an opportunity to reduce costs and build trust in the public spending. The paper and the presentation gives an overview on how the state can apply the distributed ledger technology (DLT) and blockchain technology in the public administration: there are several countries with best practices already, and even more are in the introduction phase of opening to Industry 4.0 in the public services as well. On the field of FinTech area the state has great responsibility to regulate (or at least define) the phenomena of cryptocurrencies, that is already in use for more than 10 years now without any responsible governmental acts. Within this topic the Central Bank Digital Currency projects are also discussed in the paper, which are supported by IMF, and declared as the next natural step forward on financial markets.

*Keywords: blockchain, DLT, CBDC, FinTech, public spending*

**Dr. Judit Glavanits** is Associate Professor at Széchenyi István University (Hungary) Faculty of Law and Political Sciences, Department of Public and European Law. She is the co-founder of SmartLaw Research Group and head of a non-profit organization developing the sustainable and responsible digital economy in Hungary. Her research areas are digital transformation and public procurement, the latter is her profession as well. Her latest research topic is blockchain technology and its impacts on the governmental functions (especially on FinTech regulation and money market), and possible ways of the protection of the consumers and children facing the challenges of digital economy.

### 33. Framing Climate Change Process in Lithuanian Online Media

Justas Kažys

**ABSTRACT:**

Mass media is one of major sources of information about climate change. Therefore, framing the climate change news are crucial for understanding the whole process of climate change information perception. However, online mass media opinion could be very controversial and information plausibility could be an object of the discussion. Moreover, climate change adaptation (CCA) processes are still well presented in online media comparing to climate change mitigation (CCM). The main objective of this research is to find what kind of CCA and CCM frames are present in internet mass media sources and how it changes throughout the time, what kind of textual, visual messages are given, and what is the content of public comments on this issues? Analysis based on 3 main online media sources in Lithuania (delfi.lt, 15min.lt and lrytas.lt) covering period from 2005 to 2019. Results showed that CCA is not strongly framed on climate change information context in Lithuania. Mass media reaction to CCA process has more spontaneous than systematic approach. The rising of CCA newsfeed could be related to global (e.g. Paris agreement) and national (e.g. droughts, floods and heat waves persistence) levels.

*Keywords: Framing climate change, adaptation; mitigation, information; online media; public awareness*

**Dr. Justas Kažys** is Assoc. Prof. of Institute of Geosciences, Faculty of Chemistry and Geosciences in Vilnius University, Lithuania. More with 15 years' experience in teaching different subjects related with climate change. For the same amount of years active participant in international projects in Baltic Sea region (ASTRA, BaltCICA, BaltAdapt, BaltCLIM, BalticClimate, KLIMEKO, CLIMPEAT). The main scientific interests are Climate change sociology, Climate change adaptation, Biometeorology, Urban meteorology with concern to climate change issues and Applied meteorology.

## 34. Influencers - Contemporary Authorities of the Young Generation?

Katarzyna Garwol

### ABSTRACT:

Over the past decade computers and smartphones connected to the internet have become widespread, that is why they are now an inseparable element of all ages people's life, especially young people who do not remember the times when such devices were not used. It is commonly used saying that present-day youth "were born with a smartphone in their hands." In the Network young people lead their social life, search for information on various topics and also watch social networking sites, where so-called influencers i.e. network celebrities run their thematic profiles. Content posted by influencers is not always valuable and it happens that they cross the law line and push the boundaries of good taste. An example can be currently popular "patostreams" i.e. live broadcasts, during which behaviors considered as social deviations are presented such as domestic violence, alcohol libations or vulgar discussions. The goal of influencers is to arouse interest in their profile in social media which translates into the number of followers and in turn is supposed to contribute followers' decisions (e.g. shopping) and opinions on the topics presented. Young people, who have no experience and critical overview and their maturity is just developing, often spend many hours a week in the virtual space watching influencer messages. The article will attempt to answer the questions on how young people approach the content presented by influencers, whether influencers shape followers' opinions and decisions in various aspects of life and whether they are authorities to be imitated and trusted.

*Keywords: influencer, celebrity, influence, internet, youth*

**Katarzyna Garwol**, PhD, is an Assistant Professor at the Institute of Sociological Sciences, College of Social Sciences, University of Rzeszów, Poland. Her scientific and research interests are mainly associated with the sociology of the Internet, sociology of new media, digital exclusion, social aspects of computer science, threatened in the world of new technologies. She holds a Master of Science in Education of Visual Arts, a Master of Science in Computer Science and Econometrics, and PhD in Sociology. She is the author of 36 articles in scientific journals and chapters in monographs.



## 35. Green Logistics - The Way to Environmental Sustainability of Logistics: Empirical Evidence from Polish SMEs

Krzysztof Zowada

### ABSTRACT:

The needs related to natural environment protection, which are accentuated both in world literature and practice, became the main prerequisite to find new management concepts enabling the development of solutions which are environmentally responsible and economically effective at the same time. One of the concepts which can be an answer for the requirements related to environment protection is the 'green logistics' concept. The literature review shows that publications referring to the development of 'green logistics' have so far focused primarily on the processes of implementation and development of 'green logistics' in large enterprises. In other words, the reviewed research studies didn't take into account the specific nature of the SME sector, which is a very important factor considering its diversity and, most of all, its high significance and size in the economy. As a consequence, a research gap related to the development of 'green logistics' among small and medium-sized enterprises was identified. To explore the identified research gap a survey among 200 SMEs running their businesses in Poland was conducted. On the basis of the conducted research, it was revealed that SMEs' activities related to environment protection when running logistics processes are mostly determined by actual legal provisions. However, this amounts to enterprises reaching a certain minimum related to the state's environmental policy. On the other hand, it's worth emphasising the role of the supply chain leader, which becomes a strong driving force for implementing 'green' solutions in the area of logistics for enterprises with higher levels of 'green logistics' development. The research results can be a starting point for creating a model illustrating the development of 'green logistics' in the SME sector.

*Keywords: Green logistics, environmental sustainability, SME*

**Dr. Krzysztof Zowada** works at the Department of Business Logistics, University of Economics in Katowice, Poland. Head and participant of several research projects where investigates on logistics management problems and environmental responsibility in logistics activities of small and medium-sized enterprises. In 2019 he defended his PhD thesis about the development of green logistics in small and medium-sized enterprises in Poland. In the near future he intends to undertake a research project on the participation of small and medium-sized enterprises in sustainable supply chains. He has several years of business experience with particular emphasis on the area of logistics.

## 36. Approximation of Ukrainian Environmental Legislation to EU Law: Directions and Perspectives

Liudmyla Golovko, Maksym Kutsevych, Viktoriia Serediuk, Olga Bogdan

### ABSTRACT:

The purpose of our scholarly work is to explore the process of approximation of Ukrainian environmental legislation to EU law. The range of issues that Ukraine has reformed in the field of environment has been investigated. The state of compliance of Ukrainian environmental legislation with the commitments under the EU-Ukraine Association Agreement was revealed. The problems of further effective application in practice of the adopted regulatory legal acts, strategies and action plans were disclosed. Particular attention was paid to water legislation and legislation in the field of waste management. The current state of the sphere of solid waste management in Ukraine was revealed. The state of adaptation of Ukrainian water legislation to the requirements of the European Union law has been investigated. Ways to improve Ukraine's environmental policy on waste and water policy based on European experience were substantiated. The methods of comparative, analytical, statistical and logical analysis were used.

*Keywords: Environmental law, environmental safety, adaptation of Ukrainian environmental legislation to EU standards, EU water legislation, EU waste legislation*

**PhD. Liudmyla Golovko** is associate professor of the Department of International Law and Comparative Law of the National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine. Member of teaching staff of 575523-EPP-1-2016-1-UAEPJM0-MODULE "EU Environmental Policy and Law", performer of the research theme "Legal regulation of quality and safety of drinking water" which was funded by the Ministry of Education and Science of Ukraine, performer of the research theme "Informational and legal support of the environmental component of national security" funded by the Ministry of Education and Science of Ukraine.

**Maksym Kutsevych** is Doctor of Juridical Science, associate professor, deputy dean of the Faculty of Law and associate professor of the Department of Criminal Law and Criminology of the Faculty of Law of Taras Shevchenko National University of Kyiv; expert on criminal law and criminal procedure of the joint project of the European Union and the Council of Europe "Strengthening and Protecting the Rights of Women and Children in Ukraine TRES"; expert on criminal law and criminal procedure of the non-governmental organization "Women's Consortium of Ukraine"; consultant of the Committee of the Verkhovna Rada of Ukraine on Legislative Support of Law Enforcement.

**PhD. Viktoriia Serediuk**, associate professor of the Department of Theory of Law and State of the Taras Shevchenko National University of Kyiv. Scientific interests: philosophy of law, political doctrines, bioethics and law.

**PhD. Olga Bogdan**, assistant of the Department of Theory of Law and State of the Taras Shevchenko National University of Kyiv. Scientific interests: philosophy of law, theory of law.

## 37. Inclusive Education for Ethnic Minorities in the Developing World: The case of Alternative Learning System for Indigenous Peoples in the Philippines

Maria Rita Cucio, Divina Gracia Z. Roldan

### ABSTRACT:

Education is integral to achieving sustainable development. It is through education that an improved quality of life ensues with people's acquisition of knowledge and skills beneficial to society, at large. Inclusive education, however, is an issue among countries with marginalized ethnic groups. In Europe, the onslaught of migrants from various parts of the world challenges educational systems to be more attuned to the needs of children of migrant families. In Asia, on the other hand, a gnawing concern is for education to reach indigenous peoples in rural areas. This paper examines how inclusive education is key to accomplishing Sustainable Development Goal 4 which is "to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". It tackles the accessibility of alternative learning systems in the developing world, with the Philippines as a case in point. This paper focuses on the process of interface utilized by the Philippines' Department of Education and the Ayta, an indigenous group living in the Philippine province of Zambales to address the unique conditions of this marginalized ethnic minority. It also investigates the effects of these indigenization efforts on the Ayta's cultural rights. This paper uses mixed methods such as key informant interview, focus group discussion, survey questionnaire, secondary research and Filipino psychology research methods. This paper underscores how partnership between government and stakeholders is significant in arriving at the goal of inclusive education. This is reflected in the collaborative relationship fostered between the Philippine government and the Ayta and how the partnership positively affected the Ayta's cultural rights based on a more culturally-appropriate educational curriculum.

*Keywords: education, alternative learning system, sustainable development, ethnic minorities, indigenous peoples, Philippines*

**Dr. Maria Rita Cucio** is a faculty member of the Political Science Department, Institute of Arts and Sciences at the Far Eastern University, Manila, Philippines. She teaches Fundamentals of Political Science, Philippine Political Thought and Methods of Research. She is also Coordinator for Gender and Development under the university's Academic Affairs Office. She obtained her Ph.D. in Development Studies at the De La Salle University.

**Dr. Ma. Divina Gracia Z. Roldan** is a professor and graduate program coordinator at the Political Science Department, College of Liberal Arts, De La Salle University in Manila, Philippines. She obtained her Ph.D. in Philippine Studies (specializing in bureaucracy and external relations) at the University of the Philippines Asian Center. Her areas of expertise include governance and information and communications technology (ICT) for social inclusion, organizational analysis, public-private sector partnerships, and development studies. She has managed research projects with internationally-trained professional teams from Europe and Asia; and has published in international books and journals on policy issues.

## 38. Families Benefiting from Social Assistance in Poland: Strategies and Barriers to Poverty Reduction

Magdalena Pokrzywa

### ABSTRACT:

The article aims to characterize the remedial strategies undertaken by Polish families using social assistance to minimize material deprivation and the main barriers to empowerment of such families. The source of data are the results obtained as part of the author's own research, which were conducted with social workers in Poland and had quantitative (500 CATI) and qualitative (90 IDI) nature. In families living in difficult economic conditions, both active and passive activities are used to obtain the missing funds. Active strategies include taking up a job (permanent, additional or occasional, legal or in the so-called 'gray area'), selling or exchanging skills, time and goods, borrowing money, or applying for support to institutions (which is mainly a female domain). Women also implement many passive strategies that involve saving or reducing consumption by, for example, preparing dishes from cheap products, shopping in places with the lowest prices, buying second-hand items, etc. The main barriers to minimizing the poverty of families benefiting from social assistance in Poland are related to their life attitude and the gender of its members. Remedial strategies for difficult financial situations undertaken by poor families benefiting from social assistance vary depending on the type of family, problem(s) they experience and the resources they have. The strategies undertaken also depend on the gender of family members experiencing poverty.

*Keywords: poverty, family, social assistance, social worker, gender*

**Magdalena Pokrzywa** holds a PhD in sociology, assistant professor at the Institute of Sociology of the University of Rzeszow (Poland). Sociologist and social worker conducting research in the field of sociology of social problems. Her research interests relate to social inequalities and gender. Postdoc researcher at The New School for Social Research (New York, US). Member of the Polish Sociological Association.

### **39. The Visual Penetration as a Creative Theory and Its Aesthetic Role in the Construction of Vacuum Sculptural Constructions of the Ready-made Objects and Benefit from them in the Development of Concepts of Contemporary Sculpture**

Mahmoud Mostafa Elsayed

#### **ABSTRACT:**

The technical concepts developed during the 20th century have evolved tremendously, contributing to changing the form of artistic work, based on many ideas related to science. These concepts include optical penetration, which means interference and deep inwardness, and access to elements of artistic work, which requires introspection in understanding the reality of the penetration. The forms and images of the visual breakthrough as a concept in contemporary sculpture, penetration is the penetration of the eye through the movement of the eye can be aware of what is happening in the changes in the elements of the composition of the work of sculpture, eye viewer move as long as new points of attraction in the field of vision, characterized by the sculptural work achieved. The concept of penetration on a rich field of vision as a result of the interaction and interconnection and overlap of the internal and external space of the work of sculpture to form a composite vision. In the first half of the twentieth century, the employment of ready-made objects became apparent in many of the works of art in the first half of the twentieth century in the light of some trends that were often concerned with the formulations. The use of objects did not stop as an input to express this intellectual and philosophical point of view, And the collection of a group of things or parts of it and based on the artist's interest in the creation of aesthetic relationships between these things more than finding things and creativity from the outset. Therefore, the current research reviews the concept of optical penetration and vacuum formations and study how to recycle the ready-made shapes because of their profound impact in achieving the concept of optical penetration of scientific theories and philosophical thought about the concept. Research problem: - How can the disclosure of visual penetration as a creative vision in the creation of synthetic formulations of vacuum for ready-made things?

*Keywords: visual penetration, creative theory, vacuum sculptural constructions, ready made objects, contemporary sculpture*

**Mahmoud Mostafa Elsayed** is Assistant Professor in Faculty of Specific Education, Department of Art Education, Sculpture in University of Alexandria. Interested in Sculpting and Pottery.

## 40. Traces of Social Sustainability in Garden Cities: Karlsruhe as a Case Study

Mahsa Bagheri, Elisabeth Dütschke

### ABSTRACT:

Discussions about sustainable communities as a significant measure in social sustainability began in the 2000s. Sustainable communities are defined as places in which existing and future generations would like to work and live. They contribute to the well-being and quality of life and offer equal opportunities to their residents. The definitions are similar to the objectives of one of the most influential movements in the history of urban planning: the garden city. The principles of the garden city are applicable to new and existing towns and its concept has been adopted in different contexts until today. Therefore, many lessons can be learnt regarding sustainable urbanism by studying social sustainability in this type of urban settlement. As a first step towards this aim, this paper studies the experience of living in the garden city of Karlsruhe today. A survey was conducted among the current inhabitants. The study shows a high level of satisfaction and the tendency for a long residency in the garden city because of the reasons like ample greenery, central location and quietness of the settlement. The results will be used as the first dataset for developing a framework for urban social sustainability in the garden cities.

*Keywords: sustainable urbanism, social sustainability, sustainable communities, user satisfaction, garden cities*

**Mahsa Bagheri** studied Bachelor of Architectural Engineering at Shiraz University (Iran) and has received her master's degree from Eindhoven University of Technology (Netherlands) in the program Architecture, Building and Planning. She is a PhD student at Karlsruhe Institute of Technology (Germany) and a researcher at Fraunhofer Institute for Systems and Innovation Research ISI. Currently she is working on her dissertation about Social sustainability in the Garden Cities with a focus on Karlsruhe as case study. Her research interests include building conservation, sustainability, efficiency and sufficiency in building sector.

**Dr. Elisabeth Dütschke** studied psychology, business administration and marketing. For her PhD thesis she received an award from Südwest Metall as an outstanding contribution to research. Further work experience includes consulting of private and public organizations and journalism as well as university lectures. Since June 2009 at the Fraunhofer ISI as senior scientist and since March 2019 coordinator of the Business Unit Actors and Social Acceptance in the Transformation of the Energy System. Her work focuses on the human perspective on a changing energy system. She is the main contact for societal issues around the energy transition for the institute.

## 41. The Urban-Rural Continuum: A New Approach to the Future Planning for Rural China

Mao Lin

### ABSTRACT:

China's urbanization has brought benefits to cities, but the price is the deterioration of the urban ecological environment. As a result of China's long-term urban-rural dualism, cities have been strongly supported, but nature-based rural areas have been occupied. Even though China has been aware of the ecological deterioration and has issued rural ecological policies, there is still the existing contradiction between the land loss caused by metropolitan expansion and the rural revitalization. In this regard, we introduce "the urban-rural continuum" as the theory proposed by an American anthropologist William Skinner. It offers a spatial model to describe the rural market structure in China: China's rural social structure, from villages to cities, is combined by the unit of a standard market town. A standard market community is a standard market town with an average of 18 villages surrounded. The higher-level standard market has evolved into an intermediate market town which can be considered as a city. However, we extend it to the field of architecture and planning to explore a sustainable method of urban-rural integrated planning. It can further balance the development of urban-rural relationships by evacuating the urban population to revitalize the countryside and protect the ecological environment.

*Keywords: urban-rural continuum, green city, community, sustainable planning, rural heritage*

**Mr. Mao Lin** has acquired his master's degree in Architecture at Southwest Jiaotong University in China. He is now doing a Ph.D. program in Architectural and Urban Design at the Department of Architecture, Built Environment and Construction Engineering, Politecnico di Milano. He is also undertaking the teaching assistant of the master courses Final Studio and Contemporary Architecture Design Theory under the program of Architectural and Urban Design. His research focuses on sustainable planning methods for future China's cities under the urban-rural continuum, especially on how rural China can be transformed in the future under the background of urbanization. He is working on the cases of rural transformation, planning, and design around Chengdu, the largest city in western China, established on the special residential housing called Linpan rural settlement.

## 42. Developing European Key Competences with Green Education

Margherita Maria Sacco, Elena Liliana Vitti, Alberto Parola

### ABSTRACT:

Building & Learning Project is an action-research focused on the environmental consequences of technology. The didactic design has been structured on the classic program proposed for the scholar discipline Technology for the first grade of secondary school and tries to answer to the requirements of the Digital School. Our first aim is to overcome the diktat “teach how to use the media” and reach the capacity to “teach with the media”, to avoid the danger of a “technocentric illusion” and to get the purpose to develop the competences proposed by Europe and Italy. Our teacher-researcher prepared every lessons to help the students to: a) get the disciplinary aim b) understand the process and the consequences that every technology brings with itself c) apply the theory in a practice activity. Every lesson is divided in two phases: the theory part, based on the method of Cooperative Learning, while the second part is a practice activity where students build with LEGO Education Kit a model that forecasts the application of the theory. After the first period, we had to introduce a Story-telling part because the students showed great difficulty in expressing the theory explained.

*Keywords: European key competences, Media Education, Cooperative Learning, Sustainability education, STEM*

**Margherita Maria Sacco** is taking a master's degree in Organization and programming of educative and formative services who cooperates since 2018 with the University on a research scholarship and, after the degree, she is going to become “subject expert” of the department Cinedumedia of Turin University. The group's research is focused on Media Education and meta-cognition to the development of life-skills and on the overcoming of the technocentric approach in Educational Technology.

**Elena Liliana Vitti** is a researcher-teacher who cooperates since 2018 with the University and works, overall, on the didactic program for the development and evaluation of the competences required by Italy and Europe. Her cooperation is essential for the research to analyze and overcome the most common problems encountered by teachers in classroom works.

**Alberto Parola** is the Chief of the International Center of Research for Digital Education (Cinedumedia) and Professor of Sperimental Pedagogy, Educational Research methodology, Media Education research methodology and of Education and Learning Technology at the Philosophy and Educational Science Department of Turin University.



## 43. Artificial Coral Reef Sustained by Rural School Meal Program for Malnutrition

Maya Pillai, Donaran Das, Nitin Shah

### ABSTRACT:

Annually, roughly 250,000 ton of egg shells are generated as waste and are utilized by fertilizers and dumped at landfills. Over time, this has given rise to multiple environmental concerns. The purpose of this study is to utilize egg shell waste to build reef structures. About 34-40% of Indian school children are protein deficient and stunted. In order to address this issue, a program was started in January 2020, in a rural school, 200 km from Mumbai, India. Each student was provided two eggs per day, in addition to the government sponsored school meal. The discarded egg shells were dried, powdered, and mixed with Portland cement (10:90 ratio) to build interlocking blocks (12 X8X3 inches). In June 2020, these blocks were assembled at a depth of 20 meters off the coast of Pondicherry (India), and the first artificial reef structure made of eggshells was built. In conclusion, utilizing egg shell waste to build artificial coral reefs is feasible and an effective method of environmental sustainability.

*Keywords: Egg shells, Artificial Reef, Portland Cement*

**Maya Pillai** is an 11th grade student in Mumbai aspiring to study environmental science. She is India's youngest girl Master Scuba Diver and Youngest Freediver (SSI certified). She has been involved with artificial reef building with Temple Foundation in Pondicherry. She also launched The School Courtyard Foundation to improve sanitation in rural schools and also egg supplementation to school meals.

**Donaran Das** is the director of Temple Adventure Diving Centre at Pondicherry, India. He is a PADI certified scuba instructor and involved with artificial reef building.

**Dr. Nitin Shah**, MD., Section Head, Paediatrics, PD Hinduja Hospital, Mumbai. Ex-President, Indian Academy of Pediatrics. Editor, Textbook on Paediatric Haematology.

## 44. Collaboration between NGOs and Government to Provide Post-Disaster Water, Sanitation and Hygiene Services

Mina Hosseinpourtehrani, Iftekhar Ahmed, Kim Maund

### ABSTRACT:

The governmental organizations (GOs) particularly in developing countries usually are unable to provide all necessary public services alone in a post-disaster period; hence, collaboration with other agencies is required. In the last decades, studies have used the viewpoint of collaboration between NGOs and the government and shown a beneficial relationship between them. Most studies have focused on the structures of the collaboration in the aftermath of disasters with hierarchies, protocols, authoritarian roles and the standardization of procedures. Structure, however, is a “complex medium of control” created and reproduced continuously in the interaction with the process. There is still a gap in analyzing the structural and process factors influencing the collaboration during post-disaster period. In this study, according to the previous theoretical frameworks and empirical studies, the collaboration between NGOs and GOs after the disaster to provide public services such as water, sanitation and hygiene (WaSH) is reviewed. The aim is to identify the main factors of process and structures influencing the collaboration between GOs and NGOs in post-disaster phase.

*Keywords: Collaboration, Government, NGO, Disaster, Water, Sanitation and Hygiene (WASH)*

**Mina Hosseinpourtehrani** is a PhD student from the University of Newcastle, Australia under supervision of A.Prof Ahmed and Dr. Maund. Her research is about post-disaster water, sanitation and hygiene service provision and she is trying to propose a model of collaboration between the government organizations and NGOs in the context of WaSH governance in her thesis.

**Prof. Iftekhar Ahmed** is a professor at the department of disaster management in the university of Newcastle, Australia. He takes a truly immersive approach to his research in disaster resilience. While he started on a traditional architectural path, Ifte soon moved onto a more interesting trajectory – disaster resilience and sustainable post-disaster housing systems.

**Dr. Kim Maund** is the Head of Construction Management at the department of disaster management in the university of Newcastle, Australia. Academically, her work has been published and presented at national and international forums with her winning multiple best paper awards. She supervises numerous PhD students on topics related to policy including flood mitigation and waste management.

## 45. Water Resources Management in Vulnerable Ecosystems: Quiroz River Basin, Piura

Marta Tostes Vieira, Mirian Espejo Paredes, Enrique Macedo Buendía, Fidel Torres Guevara

### ABSTRACT:

According to the IPCC (2014), access to water resources is increasingly limited due to the effects of climate change; in consequence, vulnerability of ecosystems and their inhabitants increases. Thus, it is necessary to develop socio-organizational capacities to mitigate and adapt to this scenario, where retribution mechanisms for ecosystem services become more relevant. The research attempts to analyze the capacity, of those involved in sustainable water resources management, to face climate change vulnerability in high biodiversity areas. For this purpose, the recent implementation of the Quiroz-Chira water fund will be studied as a case that generates institutionalism for the sustainability of this mechanism and that disseminates an important social innovation in this context. The methodology has a descriptive scope and applies qualitative techniques that complement secondary sources systematized with WebQDA software. Preliminary results indicate high vulnerability of the analyzed basin districts and weak governance in the integral implementation of the ecosystem service. These results promote the unification of interests between contributors and water resources retributive entities with a sustainable development approach.

*Keywords: Climate change, Sustainable development, Watershed, Governance, Ecosystem services*

**Marta Tostes Vieira**, main professor at Pontificia Universidad Católica del Perú (PUCP) in the Management Science Academic Department, Marta Tostes is doctor from Sevilla University, master and a graduated Economist from Rio de Janeiro Federal University, and specialized in innovation, project management and sustainable development. She is author and coauthor of many academic articles and books, has taught in many universities in Peru, like La Molina Agrarian University, and in other countries, like Rio de Janeiro and Sevilla. Furthermore, she is CEO of EXCEDESA consultant group, where she has wide experience in strategic management coordination processes of different organizations, developments projects and public policies.

**Mirian Espejo Paredes** has a degree in Social Management from the Pontificia Universidad Católica del Peru, specialized in Conflict Prevention and Sustainable Social Management. Research Group in Innovation Management of the Faculty of Management member. She is co-author of academic articles related with stakeholders and cultural management in local governments. Her present research interests focus on sustainable development, climate change and community relations.

**Enrique Macedo Buendía** is a graduate of the business management degree from the Pontifical Catholic University of Peru (PUCP) and a member of the Research Group on Innovation Management (GIGI). He is co-author of academic articles on small and medium-sized enterprise growth (SME). He has research interests in issues related to environmental sustainability, innovation for the generation of solutions that generate resilience to the effects of climate change and water resources management.

**Fidel Torres Guevara** is Doctor in Biochemistry, Biochemistry Master and Botanical Biologist. Mountain Institute researcher. President of the Agricultural Science and Innovation Network in AGRORED NORTE. Associate Researcher and board member of the Centro de Investigación y Capacitación del Campesinado (CIPCA), board member of the Centro de Innovación Tecnológico Agropecuario CITE- CEDEPAS CITE-CEDEPAS. Seed research in warm tropical Andes, in-situ conservation of agrobiodiversity and plant prospecting in moors and cloud forests. Principal investigator of eight agricultural and biodiversity research projects in the northern Andes of Peru between 2013-2020.

## 46. The Aesthetic and Plastic Values for the Concept of Synthesis through the Ages and the Variables of Material and Designing the Hanging Textile

Nahla Ahmed Hamdy Eldeeb

### **ABSTRACT:**

Synthesis means intermarriage and compatibility between more than one ore in a single artwork, interacting with its various properties and sources to reach a balance between expressive aspects and technical values within the framework of the technical and technical capabilities of that raw material. Synthesis is a way to achieve artistic values that lead to the creation of new artwork through the materials used, either by adding the traditional methods by adding materials that are woven into textile structures or by the method developed through the art of gluing or collage and the art of assembly through the deletion and addition within the scope of formative treatments for the textile surface or using both methods Traditional and novel together to combine woven materials and added media on the artwork surface. The research deals with synthesis through the ages (the ancient Egyptian - Coptic - Islamic - Folk art) and some schools of modern art (Cubism - Dada - Pop Art) and some pioneers in plastic art in Egypt (Munir Kanaan - Ahmed Nawar - Farghali Abdel Hafeez - Zainab Sabra). Research problem: To what extent can the aesthetic and plastic values be benefited from the different treatments of natural and synthetic textile materials for the concept of synthesis? The current research provides a program consisting of 3 units of teaching based on a number of proposed main and sub-concepts of the concept of synthesis through art education subject.

*Keywords: The Aesthetic, Plastic Values, The Concept of Synthesis, Variables of Material and designing, Hanging Textile*

**Nahla Ahmed Hamdy Eldeeb** is Assistant Professor in Faculty of Specific Education, Department of Art Education, Handmade Textiles in University of Alexandria. Also, secondment Assistant Professor in Faculty of Arts and Design, Fashion Design Department, Pharos University in Alexandria and Vice Dean for Student Affairs and Education. Interested in hanging textiles, dying textile and folk art.

## 47. Inclusive Institutions – A Precondition of Sustainable Development: A Comparative Analysis between Romania and Poland

Oana-Ramona Socoliuc (Guriță), Ion Pohoăță, Delia-Elena Diaconășu

### ABSTRACT:

When trying to identify the sources of growth and sustainable development, institutions and their effectiveness are the most important and powerful instrument required to explain the economic dynamics of countries all over the world. More precisely, those rules, formal or informal, political or economic, that foster the participation of the majority of people in activities able to ensure the allocation of resources to their most productive destinations are the ones that promote long term prosperity. Their significance is becoming even more important, when the particular case of transition economies is addressed. Consequently, the aim of this paper is to demonstrate that inclusive institutions (political and economic ones) are a prerequisite for the long run development, mainly for emerging economies. Using an unique dataset of indicators that highlight the quality of economic and political institutions we have employed a VEC Model, variance decomposition and Granger causality analysis for Romania and Poland, in order to emphasize, from a comparative perspective, that each transition path towards the market economy has designed different rules of the game determining, thus, dissimilar development profiles.

*Keywords: Institutions, sustainable development, transition, institutional performance*

**Oana-Ramona Socoliuc (Guriță)** is Lecturer PhD at the Department of Economics and International Relations at the Faculty of Economics and Business Administration of the Alexandru Ioan Cuza University of Iasi, where she teaches disciplines such as: Institutional Economics, Economic Policies, Microeconomics, Macroeconomics. She is member of the Editorial Board of the European Journal of Sustainable Development since 2016, and also a former member of the International Society of New Institutional Economics. Her fields of interest are illustrated by institutional economics, economic dynamics, European integration studies and economics of transition.

**Ion Pohoăță** is Full Professor PhD and the former Director of the Department of Economics and International Relations of the Faculty of Economics and Business Administration, Alexandru Ioan Cuza University of Iasi. He has more than 30 years of experience in teaching and research in the field of Economics and more than 20 years in teaching and research in European studies issues. He teaches “Strategies and European Policies of Sustainable Development” at Centre of European Studies of the university and History of Economic Thought and Institutional Economics at the Faculty of Economics and Business Administration of the same university. His fields of interest are: institutional economics, spatial economics, new economic geography, integration and globalization, economics of transition, crisis and economic dynamics.

**Delia-Elena Diaconășu** is Scientific Researcher PhD at the Economics and Finance Research Department of the Faculty of Economics and Business Administration of the Alexandru Ioan Cuza University of Iasi. She teaches disciplines such as: Macroeconomics, Currency and Credit Policies and European Financial Monetary Integration. Her areas of interest includes the following topics: EU financial integration, volatility spillovers, investor behavior, monetary policies.

## 48. Sustainable Innovation Cognizance and Acceptance: The Case of Electric Vehicle Adoption in Ontario, Canada

Philip Walsh, Ranjita Singh

### ABSTRACT:

In 2018, the transportation sector in Canada accounted for 25% of GHG emissions (185 megatonnes of carbon dioxide equivalent), making it the second largest contributor next to the oil and gas industry (26%). From 1990 to 2018, emissions from transportation has grown by 54%. The Canadian federal government's current energy and environmental policy includes incentives to stimulate consumer interest in purchasing electric vehicles (EV) as a solution to reducing greenhouse gas (GHG) emissions in Canada. This study examines the results of a survey of 1,000 Canadian internal combustion engine (ICE) vehicle owners to assess factors that would encourage them to purchase an electric vehicle (EV). Through correlations and a series of probit regression modelling, we provide evidence to support additional policies that could establish greater relative advantages for owning an EV. These include the promotion of the communication of those advantages through experiential awareness initiatives in order to improve consumer cognizance. We suggest that car dealerships are important partners in this journey and their association is critical for greater diffusion of EVs in the market. Our findings have implications for EV manufacturers and government policy makers.

*Keywords: GHG emissions, Electric Vehicles, Canada, Innovation, Experiential Awareness*

**Dr. Philip Walsh** is an Associate Professor, Entrepreneurship and Strategy at the Ted Rogers School of Management, Ryerson, University, Toronto, Canada. Prior to joining Ryerson in 2007, he was a Lecturer in Corporate Strategy and the MBA Program Director at the University of Surrey School of Management. Dr. Walsh is a registered professional geoscientist and former energy industry executive and entrepreneur. He holds a B.Sc. in Geological Sciences from Queen's University Kingston, an MBA from the Ivey School of Business, and his PhD in Strategic Management from the University of Bradford School of Management. Dr. Walsh's research interest is in innovation, sustainability and strategic change management. He has taught Strategy, Innovation, and Project Management at the undergraduate level and New Venture Finance, Mining Finance, and Sustainable Entrepreneurship at the graduate level. Dr. Walsh also contributes to Ryerson's Environmental Applied Science and Management graduate program.

**Dr. Ranjita Singh** is a Lecturer with the Department of Entrepreneurship and Strategy at the Ted Rogers School of Management, Ryerson University. Prior to her position with Ryerson, Dr. Singh was an Assistant Professor at the Amsterdam Business School. Her research interests are in sustainability, innovation, and corporate governance. Dr. Singh delivers courses on Strategic Management, New Business: From Idea to Reality, and The Growing Business: Breaking Even and her research interests are in sustainability, innovation, and corporate governance. Dr. Singh holds a PhD in Strategy from the Rotman School of Management at the University of Toronto.

## 49. Limiting Water Demand for Agriculture with Smart ICT Tools Based Upon Wireless Sensor Network

Rafal Wawer, Jerzy Kozyra, Mariusz Matyka, Artur Lopatka

### ABSTRACT:

Agriculture remains the most important water consumer worldwide, taking in many arid regions more than 90% of the sweet water available. Since recently the agriculture in Central Europe had a low share of irrigated area. Changing climate and increasing frequency of severe droughts is inducing a turn towards irrigated agriculture. Shrinking water supply and increasing water demand for agriculture require a broad system reform on national level as well as optimization of irrigation practices at farm level. The paper deals with assessing the efficiency of a smart irrigation support system ENORASIS in potato and raspberry, based upon direct measurement of soil water stress, compared to non irrigated crops and crop irrigated based upon maximum and potential ET<sub>0</sub> calculations. The results show high (up to tenfold for raspberry) gain in water saving and 67% increase in revenue (potato) for fields irrigated with ENORASIS.

*Keywords: Irrigation, wireless sensor network, Smart Farming, precision farming, ENORASIS*

- Prof. Rafal Wawer**, Professor position within agricultural sciences (PhD 2003, Tenured 2019), specialized in fundamental research on soil erosion and soil science as well as R&D in: GIS, SDI, Open Source, spatial modelling, ICT in agriculture, irrigation, organic agriculture, agro-forestry and adaptation to climate change. Environmental engineer (MSc engineer 1999) in land protection and waste management. Recent and current projects include: EO in soil monitoring (Soils4EU, DG-ENVI contract), testing new fertilizer products in bio-economy B-FERST (H2020), development of a smart crop irrigation ICT DSS (ENORASIS, FP7), low carbon agriculture (LCAGRI, Biostrateg), sustainable agricultural practises (SUSTAINFARM, AFINET), ICT in agriculture, watershed processes (JRC contract), adaptation to climate change (ClimaEast). Recently leading IUNG team within ENORASIS project, where IUNG was responsible for the development of an innovative irrigation DSS and its implementations in 4 countries. 80+ submitted project proposals. Involved in 41 projects, coordinated 5 (1 FP6), WP leader 1 (FP7), task leader 25.
- Prof. Jerzy Kozyra** works in the Department of Bioeconomy and System Analyses at the Institute of Soil Science and Plant Cultivation – State Research Institute. Specialization: agrometeorology, climatology, adaptation to climate change, mitigating climate change, bioeconomy.
- Prof. Mariusz Matyka** is a deputy Director at the Institute of Soil Science and Plant Cultivation – State Research Institute. Specialization: agricultural economics, energy plants.
- Artur Lopatka**, MSc is a senior researcher in the Department of Soil Science Erosion and Land Protection at the Institute of Soil Science and Plant Cultivation – State Research Institute. Specialization: physics, numerical modeling, spatial modeling.



## 50. Saving Water for the Future via Increasing Plant Literacy of Young Generation

Renata Ryplova, Jan Pokorný

### ABSTRACT:

The struggle for mitigation of global climate changes is aimed mostly on CO<sub>2</sub> emissions, while the role of vegetation having strong impact on water retention in the landscape and cooling of environment stays out of the focus. The reason is human illiteracy of plant role in our environment having roots already in school education. The vegetation use the majority of solar energy for the water evaporation from leaves and by this way cools itself and environment and increase water retention in the landscape. Insufficient understanding of these processes leads to no proper landscape management resulting in further increase of drought and climate heating. To stop over drying and ensure sustainable economy and environment for the future it is necessary to increase general public understanding of the principles of solar energy distribution by vegetation and its role in water cycle in the landscape via improving school education. This contribution inform about the new teaching methodology on this topic developed by co-operation of scientists and educators and implemented into the education at Czech basic schools. The results of the survey aimed on the impact of this teaching methodology on students' knowledge of plant role in environment are included and necessity of implementation of this topic into sustainable education is discussed.

*Keywords: Water, vegetation, solar energy, environmental education, climate*

**Dr. Renata Ryplova**, Ph.D. is professional assistant at Faculty of Education, University of South Bohemia in Ceske Budejovice, Czech Republic. She is a plant physiologists focusing recently on didactics of botany and environmental education. She earned her experience in the field of plant physiology and plant - atmosphere interaction during the studies at Charles University, Prague and Institute of Meteorology and Climate Research - Atmospheric Environmental Research (IMK-IFU), Garmisch-Partenkirchen, Germany. Her recent research activities are concerned on sustainable education, especially the use of modern teaching/ learning strategies for improvement of students understanding of plant physiology and role of vegetation in human environment. She is an author of numerous scientific papers and participates in international projects dealing with environmental and botany education.

**Assoc. Prof. Jan Pokorný**, director of ENKI, o.p.s. Trebon, Czech Republic. Graduated from the Charles University Prague Faculty of Natural Sciences. With the Botanical Institute of the Czechoslovak Academy of Sciences he studied photosynthesis and developed instrumentation for oxygen measurements. In 1984/85 visiting scientist with the Institute for Irrigation Research of CSIRO Australia. Later involved in lake and wetland restoration projects in Europe, Australia and East Africa. He studied effect of plant photosynthesis on chemistry of shallow lakes and successively paid attention to active role of terrestrial plants in distribution of solar energy via water transpiration. He published about 200 scientific papers in reviewed journals and co-author of several books. Lecturer and organizer of international courses in Applied Limnology (in cooperation with IHE- Delft and BOKU Wien), for 25 years he lectured Plant Ecophysiology in Charles University Prague, 7 years he lectured Erasmus course on "Water Quality Management" with Turku University/Finland etc. Member of international scientific committees, tutor of MSc and PhD students.

## 51. Education for Sustainable Development and Primary Education in China: A Case Study

Ronghui (Kevin) Zhou

### ABSTRACT:

This research intends to explore the enactment of Education for Sustainable Development (ESD), in term of the ESD concept, in primary schools in China, and investigate the factors that have positively or negatively impacted the outcome of ESD in urban primary schools in China. The proposed research questions is: how is ESD concept perceived and enacted by the local education stakeholders. This research is conducted in multiple primary schools in China, and has questionnaire and interviewed multiple education stakeholders, including school principals, school teachers, and bureau from the municipal Ministry of Education. Factor analysis, regression analysis, and critical discourse analysis are adopted to interpret and analyze the data. The preliminary findings suggests that contested ESD definition, education system pressures, education policy enforcement, and power dynamics between stakeholders are the key factors that have determined to what degree is ESD enacted, and to what extent is ESD practiced in primary schools in China.

*Keywords: ESD, Primary Education, ESD policies, Policy Enactment, China*

**Ronghui (Kevin) Zhou** is a second-year Ph.D. student within the Center for Education Studies at the University of Warwick. His research topic is on Education for Sustainable Development (ESD) in China, particularly within the context of primary education. He is particularly focusing on local education stakeholders, ESD policies, and school implementations. His research tends to focus on how local education stakeholders perceive and implement ESD in primary schools in China.

## 52. Educational Recommendations to Maintain a Healthy Biorhythm of Children Living in a Light-Polluted Environment

Sándor Csonka

### ABSTRACT:

Some of the children who grew up in an urbanized environment may have never been able to look at a clear, starry sky. Experiencing the natural darkness of the night, which has been an essential part of humans' life, is now a privilege for fewer and fewer people. Lack of this natural connection can result in a shift in human biorhythm, which can also lead to health problems. The focus of this oral/poster presentation, is the relationship between the geographical spread of light pollution and the appearance of human biorhythm problems in Europe using quantitative data from previous research (e.t. Leger and Guilleminault, 2019; Netzel, 2018). In light of this, educational suggestions are made to help a healthy biorhythm of those children that are exposed to light pollution. These suggestions are developed by examining not only yoga culture and traditional Chinese medicine (e.t. Kayne and Booker, 2010; Desikachar, 1999) but also traditional Hungarian peasant life (e.t. Oláh, 1986). The novelty of the research topic is that the target groups of biorhythm education proposals have been identified by geographic analysis of light pollution (and biorhythm shift). In addition, less well-known school-based methods for maintaining an appropriate biorhythm are also presented.

*Keywords: light pollution, biorhythm, environmental education, yoga culture, Chinese medicine, Hungarian culture, health education*

**Mr. Sándor Csonka** is PhD student at Eszterházy Károly University of Eger, Hungary. His main research area is the impact of free exploration in nature on the development of environmental consciousness. He also works on analysing and further developing both ecological identity and environmental attitude scales such as Revised Ecological Paradigm Scale (Dunlap et al., 2000). He teaches at the same university as lecturer of Sustainability and Ecology. As a member of EFOP-3.6.2-16-2017-00014 "Development of an international research environment in the field of light pollution testing" project, he examines the human ecological, physiological, psychological and pedagogical aspects of natural light and light pollution. His major research area in the project is the geographical analysis of light pollution and biorhythm problems in Europe, as well as educational methods to maintain proper biorhythm by examining different cultures.

## 53. Inclusion and Equality in Contemporary Urban Housing Developments: The Study of Riga

Santa Freimane

### ABSTRACT:

The residential environment plays a significant role in the context of a city's sustainable development. Moreover, it should contribute to inclusion and equality at Socio-Cultural dimension. Each year in Riga, capital city of Latvia, new residential developments are appearing. Till far is little known about how these developments contribute to overall goal of sustainability, especially in terms of inclusion and equality. This research focuses on the context of several issues related to inclusion and equality in Riga 21st century residential developments with the aim of gaining a deeper understanding of current trends as well as possible evolution. Theoretical methods include the analysis of urban and architectural plans, legislation, strategies, development programs and other documented sources. Empirical methods include field studies and the analysis of statistical and sociological data. The major findings indicate that the first steps towards sustainable urbanism have been taken. However, isolation, creation of gated communities, urban fragmentation as well as segregation have led to mediocre situation in terms of inclusion and equality. The current situation should be improved in order to increase quality of life of all citizens and to contribute to goal of sustainable development.

*Keywords: Residential environment; inclusion and equality; sustainable urbanism; housing developments*

**M. Sc. Arch. Santa Freimane** received the degree of Bachelor of Architecture in 2013, Diploma of Architect in 2015, and Master of Architecture in 2017, from Riga Technical University. Since 2017, she is a PhD student with the Faculty of Architecture of Riga Technical University. She participated in the Erasmus exchange program at the Polytechnic University of Valencia in 2013. She has been developing her professional skills in several architecture offices in Latvia, Italy, Spain and Germany. Her main research focus is on sustainability of contemporary residential environment. The theme of her master thesis was "Sustainability of Riga 21st Century Apartment Complexes". She is currently investigating quality aspects of Riga new built residential developments. She has received the Architect Janis Alksnis' Award in 2017.

## 54. Sustainable Tourism Development in Russia: The Case of Baikal Harbour Project

Sergey Kirillov, Natalia Sedova, Mikhail Slipenchuk, Elena Vorobyevskaya

### ABSTRACT:

Currently, the Russian government has announced the creation of 9 tourism and recreational zones, which have preferential taxation and are designed to develop domestic and foreign tourism. The paper considers the prospects for the development of the Baikal region in the context of Special economic zone of tourism and recreation "Baikal Harbour". The complex approach was used which included the variety of methods such as landscape and geochemical research, the study of contemporary environmental situation in order to assess the prospects for the development of recreation and nature protection. To assess the prospects for the region development from the point of view of the local population the sociological research was carried out. The SWOT-analysis revealed the positive and negative factors of territory development. To meet the priorities of socio-economic development of the Republic of Buryatia it is optimal to encourage the growth of Special economic zone "Baikal Harbour". The impact of this zone is believed to be nonthreatening in comparison with unorganised tourism. The diversity of tourism and entertainment creates the necessary conditions for the efficient spending of tourists having a rest in the resort, and provides cash flow, allowing compensate all the investments in basic facilities and tourist infrastructure.

*Keywords: Sustainable tourism, environmental management, special economic zones, Baikal Harbour, Lake Baikal*

**Dr. Sergey Kirillov** is Professor at the Department of Environmental Management at the Faculty of Geography, Lomonosov Moscow State University, Russia. He is a corresponding member of the Russian Ecological Academy (REA), a member of the International Society of Ecological Economics (ISEE), a member of the New Economic Association (NEA), a member of the Association of Russian Social Geographers (ARGO), a member of the Russian Geographical Society (RGO). In 2007 he defended his thesis on the topic: "The Ecological-Economic System of Urban Land Use: Management Mechanism and Regulation Tools" with the award of the degree of Doctor of Economics. His research interests are related to the economic mechanism of environmental management, urban land tenure, the development of regional ecological and economic systems, recreational environmental management.

**Dr. Natalia Sedova** is Senior researcher at Department of Environmental Management, Lomonosov Moscow State University, Russian Federation. Her research interests include Baikal region and geocological studies. She defended her thesis on the topic "Evolution and the current state of nature management of the European North of Russia" in 2004. Currently, she participates in a laboratory workshop for 2nd and 3rd year students, lecturing on regional nature management and organizing winter scientific student expeditions. She participated in the projects of the Russian Foundation for Basic Research "Features of nature management in the central ecological zone of Lake Baikal."

- Dr. Mikhail Slipenchuk** is the Head of Department of Environmental Management, Lomonosov Moscow State University, Russian Federation. His major area of research is Russian Arctic and Baikal region. He is a laureate of the Prize of the Government of the Russian Federation in the field of science and technology for 2012, a member of the editorial boards of the encyclopedia "Baikal. Nature and People", atlas "Sustainable Development of the Baikal Region", journals "Arctic: Society and Economics" and "World of Baikal", member of the Russian Geographical Society since 1985, Chairman of the Board of Trustees of the Buryat Branch of the Russian Geographical Society.
- Dr. Elena Vorobyevskaya** is senior researcher at Department of Environmental Management, Lomonosov Moscow State University, Russian Federation. Her major area of research is sociological and geocological studies. She underwent further training on the topic "Ensuring General Safety by the Heads and Specialists of Environmental Services and Environmental Control Systems" in 2013. She participated in the projects of the Russian Foundation for Basic Research "Features of nature management in the central ecological zone of Lake Baikal" and "Assessment of the ecological status of recreational zones of the Republic of Buryatia."

## 55. The Role of Family Policy in Solving Demographic Problems: Study of the Polish Program Family 500+

Sławomir Wilk

### ABSTRACT:

This article offers a critical reflection on the Programme “Family 500+” introduced by the Polish government and aimed at improving the financial situation of Polish families in order to increase the fertility rate. Families have been supported with the benefit of 500 PLN given for each child under 18 since 2018. The article presents the results of the research carried out in 2019 on the representatives of the households (N= 3347). The interviewees most frequently pointed to the increase of the quality of living conditions and the increase in the consumption of goods and services. Approximately 90% of the interviewees have noticed the fact that the benefit boosted potential development of children by enabling them to participate in the extracurricular activities and visit leisure centres. 71.2% of the interviewees believe that the Programme let them have savings and 16,9% of respondents claim that the benefit will not contribute to their savings but will be consumed on a day-to-day basis. Despite the initial assumptions of the Programme, the policy of pronatalism was not achieved as the fertility rate did not reach the assumed level. It must be stated that even though the legislative activities constitute a milestone in the Polish pro-family policy these solutions have many disadvantages. The Programme should not be the main tool of the Polish demographic policy but just supplementary.

*Keywords: Family 500+ Program; family policy; demographic policy; State Aid for Child Support Act; household finance; family benefits*

**Sławomir Wilk, PhD**, is an Assistant Professor at the Institute of Sociology, The University of Rzeszow, Poland. He is sociologist. Author of 1 monographs, and of more than 20 articles in journals and chapters in monographs. His scientific and research interests include issues related to the sociology of disaster, family sociology and social work.

## 56. Scaling the Mental Health Literacy amongst Undergraduate Students: A Road towards Sustainable Development

Sonali Sharma, Upma Gautam, Deeksha Bajpai Tewari

### ABSTRACT:

Thesis Statement: In spite of being globally prevalent, mental illness faces apathy from the community as well as policymakers and is a point of grave social concern. Health – including mental health – and education are an imperative precondition of achieving the Sustainable Development Goals (SDGs). Education plays a crucial role in inculcating a positive attitude towards mental illness hence high mental health literacy would benefit the society at large. The present research aims to decipher the knowledge and attitude of undergraduate college students towards mental illness. Method: Students of medicine, law and engineering from different colleges in Delhi, India were cross-sectionally surveyed to fathom their attitudinal differences towards mental illness using the CAMI Scale. Results: An affirmative response was observed on Benevolence as well as Community Mental Health Ideology Sub-Scales and a dissenting opinion was identified on the Authoritarian and Social Restrictive Sub-Scales, howbeit significant differences were discerned on the basis of faculty of education. Conclusions and Implications: Results suggested that to accomplish the aspirations of the SDGs there is an ardent need to improve mental health literacy of students. The course curriculum of students needs to be revisited to integrate informative sessions on mental illness.

*Keywords: Sustainable Development, Education, Mental Health Literacy, CAMI Scale, Undergraduate Students*

**Ms. Sonali Sharma** is a Research Scholar at University School of Law and Legal Studies, Guru Gobind Singh Indraprastha University, Delhi, India. She is working on Mapping the Contradictions in Insanity: A Comparative Study of the Legal and Medical Discourse. She graduated first class with distinction from Amity Law School Delhi, Guru Gobind Singh Indraprastha University, Delhi, India. She completed her post graduation with first class from Faculty of Law, University of Delhi, India. She is a recipient of research fellowship from the University Grants Commission, India. Her areas of interest include but not limited to criminal law and health law.



- Dr. Upma Gautam** is the founding General Secretary, Asian Association of Law Professors (AALP). The association is a consortium of institutions and professors from around the world connected with Asia. Over the span of her extensive teaching career of more than 16 years, Dr. Gautam has been a visiting guest faculty at distinguished institutes of the country such as Indian Law Institute, National Institute of Criminology and Forensic Sciences amongst others and has undertaken various training modules for officers of Central Bureau of Investigation, Union Territory Civil Services. Her articles, comments and contributions have been published in acclaimed law journals of national and international repute and in various edited books. The areas of interest include but not limited to criminal law, criminal procedural laws, criminology, victimology and penology, gender studies, development issues and law, social impact assessment.
- Dr. Deeksha Bajpai Tewari** has an experience of 20 years of undergraduate and postgraduate teaching. She is a recipient of All India Graduate Scholarship, All India Post Graduate Scholarship. Her areas of research interest are human development, social impact assessment, development and gender issues in South Asia. She has been associated with various social impact assessments of National Highway Authority of India eight-laning of National Highways Projects. Her research has been in Urban India and mostly regarding urban displacement of communities and development induced displacement.

## **57. Entrepreneurial Education in the Context of the Imperative Development of Sustainable Business**

Carmen Valentina Radulescu, Sorin Burlacu, Dumitru Alexandru Bodislav, Florina Bran

### **ABSTRACT:**

Entrepreneurial education is one of the fastest growing fields in the world today, with a greater interest in the academic field, which allows the possibility to link the current needs of the labor market with the academic theory. The purpose of this article is to contribute positively to the formation of future entrepreneurship programs, by analyzing existing curricula to identify potential educational gaps, as well as to identify the skills needed by students in the context of sustainable business development. This will allow entrepreneurial trainers to exchange ideas that facilitate collective learning and help inform researchers about the future directions of education. This article will focus on analyzing existing entrepreneurial education at the international level, as well as on elaborating suggestions on how entrepreneurial education can continue to progress, as a way of modeling the future development of the economy.

*Keywords: entrepreneurial education, sustainable business, sustainable development*

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**Sorin Burlacu**, PhD Lecturer, Bucharest University of Economic Studies, Romania  
**Dumitru Alexandru Bodislav**, PhD., Assoc. Prof., Bucharest University of Economic Studies, Romania  
**Florina Bran**, PhD., Professor, Bucharest University of Economic Studies, Romania

## 58. Challenges of Sustainable Urban Development in the Context of Population Growth

Marius Constantin Profireoiu, Dumitru Alexandru Bodislav, Sorin Burlacu, Carmen Valentina Radulescu

### **ABSTRACT:**

Lately, we face many challenges that threaten the well-being of society and the quality of life. All of these challenges are complex and closely related, which means that one approach can have positive consequences for others. In this context, population growth, an extremely delicate subject, from a social and ethical point of view has generally become a threat to the entire planet, and in particular, to urban agglomerations. At the global level, population growth puts even greater pressure on basic resources, from fresh water to fertile land, endangering the very existence of humanity. The purpose of this paper is to analyze the population trend globally, as compared to the population trend in the big urban agglomerations, as well as the evolution of some indicators of the quality of life depending on the population growth. Following the analysis, we aim to identify various challenges and develop proposals for the sustainable development of urban space.

*Keywords: population, sustainable development, urban space*

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**Carmen Valentina Radulescu**, PhD., Assoc. Prof., Bucharest University of Economic Studies, Romania

## 59. Dynamics of Establishment of the Enterprises and the Entrepreneurship in Romania

Petrică Sorin Angheluță, Mihaela Diana Negescu Oancea, Amelia Diaconu, Cristina Dima

### ABSTRACT:

The prosperity of a society is influenced by the existence of an industrial base. The stronger the industrial base, the more the society is considered to be more prosperous. A high degree of enterprises competitiveness leads to jobs that favor business development. The entrepreneurial spirit contributes to the development of businesses. For Romania, the article presents the evolution of the indicators regarding the degree of establishment of the newly created active companies. Also, the dynamics of the activity of newly created active enterprises in Romania is addressed. The level of education and the age of the founder differ depending on the activity sector of the newly created active enterprise. From the evolution analyzed, it can be concluded that, in Romania, the profile of the investor is represented by an individual under the age of 40, a high school graduate or who has university studies. For Romania, in recent years, the number of newly created active enterprises has decreased in the trade sector. Also, the sector with the highest dynamics in terms of setting up and closing companies, is the agriculture, forestry and fisheries sector. These aspects are important for the economy, but also for the studies of the analysis of the training needs. In the process of generating new sources of economic growth, a relevant contribution is provided by the degree to which the entrepreneurial culture is promoted.

*Keywords: entrepreneurship, sustainable development, Romania*

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## 60. Economic-Ecological Analysis of Sustainable Development in Romania

Roxana Sarbu, Antoneta Marcela Niculescu, Ovidiu Andrei Cristian Buzoianu, Svetlana Platagea Gombos

### **ABSTRACT:**

The intense industrial exploitation of resources and the continuous degradation of the environment have determined an ecological crisis of care requires a sustainable strategy. The concept of sustainable development permanently determines or re-evaluates the connection between man and nature and is committed to solidarity between the generations as a single viable option for long lung growth. In the article, the theme of the long-term impact in the world terms on the processes developed in Romania is presented and analyzed, a necessary passage for a sustainable economic growth, but there is an existing resource and the possibility to stimulate and capitalize on an economic factor in this. the transition to this new stage of use.

*Keywords: sustainable development, strategies, ecological, perspectives*

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## 61. Sustainable Local Development in Romania in the Opportunity of Creating Jobs

Florina Bran, Ghenadie Ciobanu, Maria Loredana Popescu, Petrut Cristian Vasilache

### **ABSTRACT:**

The economic, social transformations of the last three decades of evolution of rural development both in Romania and in general in rural areas in the context of globalization have radically changed the vision, thinking and attitude of the rural population. As a result, it has led to a massive migration of population to other developed countries. This phenomenon is also characteristic for Romania. At the same time, the technological development has a massive impact on the process of organizing the society and the evolution of the society, both the evolution of biotechnologies, nanotechnologies, branches in the field of chemistry, biochemistry and digitization, which have impact on the development or underdevelopment of the areas in poverty and underdevelopment. economic, but at the same time they will be able to make an essential contribution to the local rural development and to the creation of new job opportunities for both young people and specialists from different branches, as well as for vulnerable groups of population from the rural area. In this article we aim to address these issues and come up with certain solutions and proposals.

*Keywords: Sustainable local development, rural areas, technological development, digitization*

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## 62. Do They Care? The Relevance of Sustainability/ CSR in the World of Yachting

Stephanie May

### ABSTRACT:

No doubt, sustainability has diffused into the middle of society, the concept of sustainability is omnipresent in media and in society, and just recently experienced a renewed boost. Seemingly contrary to the concept of sustainability, the luxury concept has been in the interest of research for the last few years. Just recently, research has started to investigate conceivable relations between luxury and sustainable activities on a corporate level. The main focus is currently on the following products and industries: tourism, fashion, cars, jewellery and raw materials (e.g. leather, wool, ...), as a recent and comprehensive literature-based research reveals (Kunz, May, Schmidt 2020). The luxury leisure sector, with activities or products, concretises on the maritime world, here especially the sector of (luxury) motor and sailing boats (because they are relatively clearly classified as luxury from a certain size and category onwards), respectively the "hobby of yachting", has not been researched in terms of sustainability until now. Also, at a corporate and social level, sustainability seems to play only a marginal role in this sector. A provocative headline could be in this context: Sustainability - those who could afford it do not (apparently) pay attention to it. Why is the issue of sustainability underrepresented in research, society and industry in the field of (maritime) luxury leisure activities or products? Is it due to a lack of awareness and interest of consumers, users and industries, based (also) on a presumed lack of social and ecological impact of the (maritime) luxury leisure sector? The aim of the paper is first to identify and demonstrate the importance of sustainability within the maritime luxury leisure sector, trying to reveal the inhibiting factors and pointing out the supportive factors that can help users, consumers and the industry to become more sustainable, whereby the focus is on the corporate level. To answer the research questions, an explorative approach was taken and a qualitative method - the expert survey - was selected.

*Keywords: luxury leisure activities, yachting, maritime world, recycling strategy, consumer awareness, industry standard*

**Stephanie May** is research assistant at the University of Applied Sciences in Koblenz, Germany. She is currently doing her doctorate at the University of Augsburg and her research focuses on sustainable marketing and sustainable business models.

## 63. Digitalization for the Sustainable Development of Small Towns

Tatyana Guzhavina

### ABSTRACT:

A significant trend in the development of modern mankind has become digitalization. The pandemic has accelerated the transition of most countries to digital technology. They contribute to the development of new practices, open up new opportunities for communication. They also require certain skills and competencies, education. The digital environment affects a person ambiguously. It also created new problems and limitations, increased risks. It can expand access to information, include a person in the global space, but it can also limit the world to the diagonal of a digital device. Digitalization creates new risks, including reinforcing social inequalities. Therefore, it is important to understand how ready the population is for these changes, what opportunities it has. The digital environment is emerging in modern cities, where the inclusion of citizens is faster. Ahead are megacities, industrial and administrative centers. But almost two-thirds of the cities are small towns, where the fourth of Russia's population lives. What are the opportunities for digitalization among the population of small cities, what restrictions do residents have for inclusion in the digital space. Following M. Castells, we interpret the digital environment as a new phase of civilization, as "information capitalism", which fundamentally transforms the entire system of social stratification. The purpose of our study is to assess the state of digital competence of the population of small cities of Russian Federation and the risks of increasing social inequality. The empirical base of the study is the data from a survey conducted in the Vologda Oblast.

*Keywords: The region, sustainable development, digitalization, risks, social inequality, digital competencies*

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## 64. Towards a Holistic Sustainability Evaluation for Transport Alternatives

Thu Trang Nguyen, Helmut Brunner, Mario Hirz

### ABSTRACT:

The transport sector is responsible for a broad range of ecologic impacts, e.g., energy consumption, greenhouse gas emission or air pollution. It is therefore highly important to assess transport solutions in terms of their sustainability. Widely used approaches for sustainability analysis in the transport sector include life cycle assessment (LCA), economic approach, multi-criteria decision analysis (MDCA), and assessments based on indicators. In practice, these approaches consist of several methods, i.e., product-based LCA, fleet-based LCA, cost benefit analysis (CBA), cost effectiveness analysis (CEA), value measurement MDCA, ideal-solution based MDCA, outranking MDCA, and indicator-based assessment. Even though there are a larger number of assessment methods, a holistic framework for sustainability evaluation of different transport solutions is still missing. Selection of suitable assessment methods depends on a vast array of factors. This paper proposes to utilise “application levels” for the selection process. Firstly, the paper provides an analysis of the application levels of the common assessment methods and evaluation criteria within the transport sector based on a literature review. The application levels are illustrated by identifying two dimensions, namely system level and decision-making level, ranging from Low to High. Afterwards, a six-step framework for a holistic evaluation of transport alternatives is proposed.

*Keywords: sustainability assessment, economic approach, indicator-based assessment, life cycle assessment, multi-criteria decision analysis, sustainable transport*

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**Dipl.-Ing. Helmut Brunner** is senior scientific researcher and Head of the research group Transport Innovations & Environment at the Institute of Automotive Engineering, Graz University of Technology. During his engineering studies, he worked intensively on conceptual development of vehicles and future individual mobility solutions for urban areas and its impacts. His tasks at the Institute include the analysis of future demands for mobility, conceptual development and evaluation of vehicle and mobility technologies, environmental and technical analysis and life cycle assessments of various vehicle and drive technologies, the development of mobility concepts for urban areas, as well as the assistance of students and in teaching.

**Assoc. Prof. Mario Hirz** is Head of the Research Area for Automotive Mechatronics and Vice-Head of the Institute of Automotive Engineering, Graz University of Technology. He has been awarded an M.S. degree in mechanical engineering and economics, a Ph.D. in mechanical engineering, and a *venia docendi* in the area of virtual product development. He is Associate Professor at the Graz University of Technology and a frequent guest lecturer at universities and in automotive industry throughout Europe, North America and Asia. In his position, he is responsible for various international scientific and applied projects including both, academic and industrial partners. His research topics comprise sustainable transportation technologies, concepts of future mobility, alternative propulsion technology and mechatronics systems, as well as computer-aided development and integrated development processes. Prof. Hirz is member of scientific associations, reviewer of journal and conference publications and co-organizer of conferences. He has published more than 100 works, holds a number of patent applications and has received several national and international awards.

## 65. Community Preparedness for Disasters in Delhi, India: An Empirical Evaluation

Upma Gautam, Deeksha Bajpai Tewari

### ABSTRACT:

During a disaster, the community remains the primary and the sole line of response for quite long time period and therefore, incorporating local communities in disaster recovery and risk reduction is crucial, critical component. Evaluating the vulnerability of a community on four aspects: Information, Awareness, Training and Preparedness in a multi hazard prone state of Delhi, India, is the central focus of this study. The primary data was collected through two separate questionnaires administered to the sample of 726 respondents in the age group of 15 - 75 years. Community was sub-divided into two groups - First included professionals, housewives, retired persons (n= 280) and second included students of school (n=160) and college/university level (n= 286). The sampling technique employed was stratified random with methodology as empirical and analytical. The study affirms, firstly, that there is lack of awareness of the community about disaster plan, its components and agencies entrusted with disaster planning; secondly, there is a vague understanding about their role both during and post disaster; thirdly, significance of participation in training is also underestimated. A roadmap for increasing resilience of communities through effective training and outreach programs for capacity building up for the 'whole' community.

*Keywords: Disaster risk reduction, community preparedness, resilience, participation, disaster management*

**Dr. Upma Gautam** is Assistant Professor, University School of Law and Legal Studies, Guru Gobind Singh Indraprastha University, Delhi, India. She is also the founding General Secretary, Asian Association of Law Professors (AALP). The association is a consortium of institutions and professors from around the world connected with Asia. Over the span of her extensive teaching career of more than 16 years, Dr. Gautam has been a visiting guest faculty at distinguished institutes of the country such as Indian Law Institute, National Institute of Criminology and Forensic Sciences amongst others and has undertaken various training modules for officers of Central Bureau of Investigation, Union Territory Civil Services. Her articles, comments and contributions have been published in acclaimed law journals of national and international repute and in various edited books. The areas of interest include but not limited to criminal law, criminal procedural laws, criminology, victimology and penology, gender studies, development issues and law, social impact assessment.

**Dr. Deeksha Bajpai Tewari** has an experience of 20 years of undergraduate and postgraduate teaching. She is a recipient of All India Graduate Scholarship, All India Post Graduate Scholarship. Her areas of research interest are human development, social impact assessment, development and gender issues in South Asia. She has been associated with various social impact assessments of National Highway Authority of India eight- laning of National Highways Projects. Her research has been in Urban India and mostly regarding Urban displacement of communities and development induced displacement.

## 66. Axiology in Latvia`s Insolvency Policy

Valdis Savickis

### ABSTRACT:

The closing period for the validity of the policy planning documents in the sphere of insolvency proceedings in the Republic of Latvia is approaching (the Insolvency Policy Development Guidelines 2016-2020, as well as their implementation plan). Given the extensive work done by the state on reforming and reorganizing the insolvency and regulatory framework, the author focuses on the axiological aspect of the insolvency policy. Parallel to the modernization of the insolvency process, because of which the role of the state in the control and supervision of the insolvency sector has significantly increased and considering the correlation between the speed and efficiency of insolvency process, there will be conducted value-oriented study on the insolvency sector. The aim of the paper is to carry out research and analysis of insolvency policy through the prism of axiology. The study uses analytical, descriptive, and deduction/induction methods, evaluating the various policy planning documents that make up insolvency policy, paying attention to the specifics of the insolvency process of legal entities.

*Keywords: Insolvency policy, axiology, value, business environment*

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## 67. Dissemination of Environmental Information in the E-Governance System: World Trends and Experience for Ukraine

Viktor Ladychenko, Olena Chomakhashvili, Olena Uliutina, Julia Kanaryk

### ABSTRACT:

The UN E-Government Survey 2016 on «E-Government in Support of Sustainable Development» offers a brief overview of e-government trends in the world. According to the survey, more and more governments are using information technology to provide services and engage people in decision-making processes in rural areas in their countries. Talking about the emerging economies in East Europe, the Ukrainian economy is growing faster with 50% of population living in rural areas, which develops incredible pressure on the government to give more focus on many ways of environmental safety of Ukraine. Ukraine is predominantly rural country and in order to improve the environmental conditions it is important that both central and local governments carried out national environment information activity. Modern information technology helps to disseminate environmental information in rural areas and is a major provider of information opportunities for the rural population. By 2020 Ukrainian government has a goal to achieve interaction at all levels by electronic mode. There are various electronic databases that are already functioning at the national level such as the Real Estate Register, Public Cadastral Map, etc. that can help the Ukrainian government to achieve greater transparency and successful governance. However, access to such registers is currently not possible for regional communities. Therefore, disposing of environmental information, avoiding environmental threats to the local population and enhancing the effectiveness of local governance is a goal for local governments. This paper offers a modern vision of information technologies in the field of natural resources management. E-government projects and ways to solve problems in the sphere of dissemination of information in rural areas in order to improve e-governance in contemporary Ukraine were explored.

*Keywords: Environmental information, information human rights, sustainable development, EU environmental policy*

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## 68. Implementation of a Circular Economy: The Changing Role of Municipalities

Lina Dagilienė, Viktorija Varaniūtė, Jurgita Bruneckienė

### ABSTRACT:

Historically, the EU waste legislation is very detailed and mature. Obviously, it had a direct impact on towns and cities by laying down waste management priorities and specific targets. However, the EU Circular economy action plan (2015) includes a broader definition of municipal waste and no longer limits the definition simply to waste management function dedicated for local governments. Hence, the role of municipalities is changing, as the circular economy policy includes actions in all steps of value chain (not limited to waste management) as well as prevention and active collaboration. This paper aims to explore whether and how municipalities contribute to circular economy implementation in one of the small open economies in the EU. By using desk research, focus group (with representatives of 14 municipalities) discussion and web-scan analysis we found how municipalities contribute to the implementation of circular economy across all steps of values chain. Firstly, we contribute by expanding theoretical knowledge of challenges to municipalities engaging in the circular economy. Secondly, we identified gaps (within the lack of municipalities' contribution) and provided recommendations.

*Keywords: circular economy, municipalities, waste management, challenges, good practices*

**Dr. Lina Dagilienė** is Professor and Principal Investigator of Digitalization research group at School of Economics and Business, Kaunas University of Technology. Leader of CEMESOE Project group where investigates macroeconomic effects in a small open economy by moving from a linear economic model to a circular economy. She has extensive experience in the participation in and leadership of research and educational projects (Horizon 2020, Lithuanian Research Council, DAAD, Erasmus+). Her current research interests focus on interdisciplinary economic topics, in particular corporate sustainability, circular business models, sustainability and environmental reporting, data analytics.

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## 69. Organic Fractions and Pesticide Dissipation in Groundwater Sediments

Vilhelmiina Harju, Merja Kontro

### ABSTRACT:

Pesticide residues above the accepted limit have been found in groundwater worldwide. In the European Union, the concentration of a pesticide in drinking water should not exceed 0.10 µg/L, and the sum of several pesticides and metabolites should not exceed 0.50 µg/L. Knowledge about groundwater and sustainable remediation techniques that are suitable for the groundwater environment is needed. The goal of this research was to find a low-impact remediation method for groundwater environment. Organic matter have been found to enhance the dissipation of pesticides. Therefore, purpose of this study was to investigate which fraction of organic matter is the active ingredient. Seven different fractions of organic matter were selected and their effects on atrazine, terbutryn, hexazinone and 2,6-dichlorobentsamine (BAM, degradation product of dichlobenil) was studied. Organic fractions and pesticides were added to groundwater sediment slurries and dissipation was monitored for up to 236 days. According to the results, the fractions significantly enhanced pesticide dissipation. By increasing the concentration of the fractions and by combining several effective fractions, it was possible to enhance pesticide dissipation. The active ingredients were natural organic compounds that could catalyse pesticide dissipation in filters, and in various pollutant remediation technologies.

*Keywords: groundwater, remediation, pesticides, organic matter, dissipation*

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## 70. Legal Culture as a Condition for Sustainable Development of Ukrainian Society

Vira Kachur, Khrystyna Moriak-Protopopova, Liudmyla Protosavitska, Svitlana Khomiachenko

### ABSTRACT:

At the beginning of the 21st century mankind was confronted with such global challenges in various spheres of life as environmental problems, starvation and impoverishment of the majority of the world population, degradation of morality, increasing regional and interethnic conflicts, terrorism and others. The idea of sustainable development is the answer to these challenges today. Legal culture is one of the conditions for sustainable development of Ukrainian society. It allows to rethink the role and importance of state and legal institutions for ensuring sustainable development both at the ordinary and scientific level. This role is revealed by the tasks performed by the legal culture. The formation of the philosophy of sustainable development of the population, an understanding of the values and needs of stakeholders, the involvement of individuals in the system of legal values, and legal support for all activities aimed at achieving the sustainable development goals defined in the final document of the UN Summit on Sustainable Development “Transforming our World: The 2030 Agenda for Sustainable Development” are among them. The role of legal culture in implementing the national security policy in the socio-economic, political and regional spheres of public life, preserving the historical heritage and national identity of Ukraine, overcoming internal and external threats to its sustainable state and legal development is undeniable.

*Keywords: sustainable development, legal culture, consciousness, life position, social orientation, legal values*

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## 71. In Situ Electrokinetic Remediation of Cadmium Contaminated Farmland

Yan Sun, Zongping Cai, Shuiyu Sun, Yanghong Deng, Martin Romantschuk, Aki Sinkkonen

### ABSTRACT:

Even though electrokinetic (EK) remediation has been widely studied at bench and/or laboratory pilot scales, field-scale research is far less and mostly limited to industrial soils. In this study, a 14-day EK remediation was carried out, in a field pilot (2 m<sup>3</sup>) test and for the first time in a full-scale (104 m<sup>3</sup>) application, in a Cd contaminated farmland near a mining area in Shaoguan city, China. Voltage application was 20 v/m and 4 v/m in the pilot test and full-scale application respectively. Heavy metal Cadmium (Cd) in the three soil layers, i.e. 0-10 cm, 10-20 cm, and 40-50 cm, was measured before and after the EK remediation in three replicate spots and two replicate spots in the pilot test and full-scale application respectively. A significant portion of total Cd was removed in all the three soil layers in the pilot test, by 86.7%, 72.2%, and 53.5% from top down, but only in the layer 0-10 cm in the full-scale application by 73.4%. Results showed a rather successful application of in situ EK remediation for this Cd contaminated agricultural soil and implied a high potential of in situ EK remediation of heavy metal contaminated soil.

*Keywords: Electrokinetic remediation; In situ; Farmland; Heavy metal; Cadmium*

**MSc. Yan Sun** is a PhD student in the Ecosystems and Environment Research Programme, at the University of Helsinki, Finland. MSc Yan Sun is specialized in remediation strategies for polluted soils and sediments. She has been engaged in this field since her master's degree studies. In her bachelor's thesis, MSc Yan Sun studied a type of nanomaterials used in a cataluminescence sensor for indoor air quality inspection. MSc Yan Sun is an enthusiastic scholar who has her own PhD project with her own original ideas and funds. In the meanwhile, she is committed to promoting cooperation between Finnish and Chinese researchers in the field of Environmental Protection.

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**Dr. Aki Sinkkonen** is a researcher at the Natural Resources Institute Finland (Luke).

## 72. Factors affecting international and national tourist arrivals (1974-2020) in Leh District (U.T. Ladakh, India)

Vladimiro Pellicciardi

### ABSTRACT:

Since 1974, tourists are attracted in Leh district for its mountainous landscape, environment, high altitude lakes, Indus River, beautiful villages and Himalayan people living in scenography valleys filled of Buddhist heritage sites. All makes this region a great place for adventure sports, sightseen, cultural and religious tourism. Tourism industry has rapidly become one of the most important aspects of District development paths. Visitors bring hard currency and spend money contributing to monetary economic boom that can have both positive and negative impacts on the society and territory. Tourism in Leh District has a short season (from May to October) but a highly profitable business especially with national visitors increasing by the day. This study, based on data collected from the Tourism Department in Leh, analyses the international (I) and national (N) tourist arrivals in time series to find out pattern and trends in the historical data and investigate global and local factors affecting tourist inflows (rises or falls) in the District. Yearly arrivals depends on several factors and issues like disturbances, terrorism, economic slowdowns, fleeting nature of global capital, tourist habits or new trend destinations, film induced tourism, potential future weather or climate changes and recent natural disasters and pandemic, for instance. These factors, or other different issues, can occur at unpredictable time and determine the “growth” or the “fall” of the annual tourist inflow. In conclusion, tourism system in Leh District is “complex and non-linear” and it conveys a “non-resilient” market in the District. Cautiously scaling up tourist arrivals, to contribute to the economic and social wellbeing of the people of this district, is a big challenge because heavy economic and monetary dependence on only one, although promising, fluctuating sector can be problematic for the sustainability of the local development.

*Keywords: Tourism, Tourist arrivals, Leh District, Ladakh*

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### **73. Design of an indirect dryer with the coupling of solar collectors and its thermal characterization by drying the mint leaves (*Mentha spicata*)**

Margarita Castillo Téllez, Beatriz Castillo Téllez,  
Gerardo Alberto Mejía Pérez, Oscar de Jesús May Tzuc

**ABSTRACT:**

Man has used solar energy to dry perishable products for many years, managing to preserve a wide variety of foods naturally; drying is a method that highly respects the properties and nutritional content of food. The consumption of medicinal and aromatic herbs in Mexico is traditional and widespread. In this work, an analysis of the thermal behavior of a tunnel-type solar dryer and a greenhouse-type solar dryer was carried out, both hybridization of solar technologies (water heaters and air collectors and photovoltaic pumping as an aid to the generation of hot air), in Campeche, Campeche, Mexico. The experimental results showed that the indirect tunnel type dryer that works with evacuated tubes and solar air heater at the same time, is the most efficient technology, with average drying times of 300 min and final humidity of 9.6%. A study of colorimetry, water activity and drying speed was carried out to control the drying process. It was found that it is possible to use solar energy to dry food as a means of conservation, also obtaining significant energy savings and contributing to caring for the environment.

*Keywords: Solar drying, Hybrid dryers, Drying kinetics, Solar technologies, Heat exchanger, Thermal characterization*

**PhD Margarita Castillo Téllez**, PhD in Renewable Energy Engineering with orientation in solar thermal energy, graduated from the Institute of Renewable Energies of the UNAM. Master's in engineering in Integrated Water Management by the UNAM. She has developed theoretical studies on heat and mass transport and experimental (analysis of thermal performance, thermodynamic phenomena and thermal efficiency) of distillers and solar dryers with natural convection and forced convection as well as technical and economic studies of thermal desalination plants.

**Dr. Beatriz Castillo Téllez**, Master's degree in engineering with a specialty in integrated water management and PhD in Engineering, energy specificity, work with subjects of solar thermal energy, mainly in solar cooling, solar drying of food, as well as in desalination of sea water and solar distillation.

**Gerardo Alberto Mejía Pérez**, Master in Engineering, has carried out studies on environmental conservation and cost-benefit evaluations of energy technologies.

**Dr. Oscar de Jesús May Tzuc**, Doctor in Engineering with a specialty in renewable energies.

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