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Conference Program

1. Assessment of the Contamination of Some Food Crops Due to Mineral Deposits in Ondo State, Nigeria

Associate Professor Alexander Chinyere Nwankpa

ABSTRACT:

Some regions of Ondo State, Nigeria are linked to large quantities of radioactivity as a result of the minerals presence. In this work, the baseline radioactivity levels in some of the most important food crops in Ondo State were analyzed, allowing for the prediction of probable radiological health impacts. Maize (*Zea mays*), yam (*Dioscorea alata*), and cassava (*Manihot esculenta*) tubers were collected from the farmlands in the State because they make up the majority of food's nutritional needs. At room temperature, the maize, yam, and cassava samples were dried until they reached a consistent weight. They were pulverized, homogenized, and 250 g packed in a 1-liter Marinelli beaker and kept for 28 days to achieve secular equilibrium. The activity concentrations of Radium-226, Thorium-232, and Potassium-40 were determined in the food samples using Gamma-ray spectrometry at the Obafemi Awolowo University, Ile-Ife, Nigeria.

The average committed effective doses were $0.46 \mu\text{Svy}^{-1}$ for the consumption of yam, $0.39 \mu\text{Svy}^{-1}$ for maize, and $0.43 \mu\text{Svy}^{-1}$ for cassava. These values are higher than the annual dose guideline of $0.35 \mu\text{Svy}^{-1}$ for the general public. Therefore, the values obtained in this work show that there is radiological contamination of some foodstuffs consumed in Ondo State, Nigeria.

Keywords: Contamination, Environment, Health, Mineral, Radioactivity, Radionuclides.

Ass. Prof. Alexander Chinyere Nwankpa is a lecturer in Adeyemi Federal University of Education, Ondo, Nigeria. He attended University of Nigeria, Nsukka and obtained his B.Sc. degree in Physics (Education). He obtained his M.Sc. degree in Nuclear Physics at the Obafemi Awolowo University, Ile-Ife and his Ph.D degree in Medical Physics at the University of Nigeria, Nsukka. Being a Senior Research Fellow (SRF), Ass. Prof. Nwankpa has traveled to many countries including Cape Town in South Africa, Rome in Italy, London, Oxford and Cambridge in United Kingdom to attend international conferences. He has special interest on environmental management and belonged to some professional bodies such as the Nigeria Institute of Physics and Nigerian Medical Physics Association.

2. Collaborative educational study on traditional medicine and biodiversity conservation within UNESCO Biosphere Reserve

Assoc. Prof. Dr. Aida MAMMADOVA, Prof. Unnikrishnan Payyappallimana, Assoc.Prof Vishnuprasad Chethala N, Dr. Shrinivas Badiger

ABSTRACT:

Thesis Statement: We investigated the potential synergies between Ayurveda and Kampo within the context of biodiversity conservation in Mt. Hakusan Biosphere Reserve, to elucidate the linkages between traditional medicinal practices and conservation efforts.

Methodology: 20 Indian students with backgrounds in Ayurveda and Nature Conservation from The University of Trans-Disciplinary Health Sciences and Technology (TDU) participated in an educational program at Mt. Hakusan Biosphere Reserve in Japan, facilitated by Kanazawa University. The program included lectures, fieldwork, and interactive sessions comparing Ayurveda with Kampo to explore connections with biodiversity conservation. Data were collected through pre- and post-program surveys to assess participants' awareness levels and perceptions, alongside qualitative methods such as participant observations.

Results: Findings indicate a significant increase in awareness about UNESCO Biosphere Reserves among participants following the educational intervention. Students perceived the program positively and expressed interest in further research within Biosphere Reserves. However, some respondents reported only marginal increases in awareness, suggesting potential areas for program improvement.

Conclusions: The study underscores the potential for cross-cultural collaboration in advancing traditional medicine and biodiversity conservation. Positive participant responses highlight the efficacy of educational programs in fostering awareness and interest in sustainable healthcare practices, with implications for future research and educational initiatives.

Keywords: Community development, UNESCO Biosphere Reserve, Bottom-Up approach, Regional management, Sustainability

Dr. Aida MAMMADOVA is an Associate Professor for Organization of Global Affairs, Kanazawa University, Japan. Her research is focused on the environmental education and sustainable development in rural and urban areas.

Prof. Unnikrishnan Payyappallimana, is Professor at The University of Trans-Disciplinary Health Sciences and Technology (TDU). His research focuses on aspects related to biodiversity, traditional knowledge, community health and sustainable development.

Associate Professor Vishnuprasad Chethala N is working at The University of Transdisciplinary Health Sciences and Technology in the area of Ayurveda Biology. He has more than 15 years of research and teaching experience in universities in India and South Korea. Currently engaged in trans-disciplinary research using Ayurveda Biology framework for understanding the biology of glucose and lipid metabolism.

Dr. Shrinivas Badiger is a Fellow at Centre for Environment and Development, Ashoka Trust for Research in Ecology and the Environment

3. Problematizing the Right to Water as a Human Right and the Concept of Water Security

Prof. Dr. Alejandro N. Ciencia, Jr.

ABSTRACT:

The United Nations recognizes the right to water as a human right. By doing so, the international body has made it the duty of states to provide their populations with water that is safe, clean, sufficient, accessible, and affordable – i.e., to make them “water secure.” On its face, the UN’s recognition of water as a categorical right of humans is laudable because it is guided by egalitarian considerations. However, this anthropocentric perspective can have destructive consequences on the environment - it can result in the rapid depletion of water resources. Satisfying every human’s demand for water should not be at the expense of the environment. An eco-centric/nature-centered approach to water supply management is thus proposed as the sustainable approach. The paper problematizes the concepts of water security and the right to water as human right. While it examines these concepts from a philosophical standpoint, it also investigates the possible practical and real-life implications of endorsing policies that are informed by such concepts. The paper draws attention to the need for policymakers to recognize the benefits of an eco-centric approach to water supply management.

Keywords: water security; right to water; nature-centered; eco-centric; anthropocentric

Dr. Alejandro N. Ciencia, Jr. is Professor of Political Science at the Department of Economics and Political Science, College of Social Sciences, University of the Philippines Baguio. He is currently the Chair of the M.A. in Social and Development Studies (MASDS) Program of the University of the Philippines Baguio. He teaches political philosophy, Philippine politics, and research methods. His research interests include urban resilience, water security, judicial decision-making and politics, and issues of justice. He obtained his M.A. and Ph.D. in Political Science from the University of the Philippines Diliman in 1996 and 2010, respectively. He was a Fulbright Visiting Scholar at the University of Michigan, Ann Arbor, Michigan, USA, from November 2019 to February 2020.

4. *Pseudomonas alloputida* and *Pseudomonas taiwanensis* in a process of degradation of polymer materials.

Alicja Mazuryk, Daria Lisewska, Kacper Fiedurek PhDc, Dr. Katarzyna Janczak

ABSTRACT:

The literature indicates that the source of microorganisms with the potential of polymer biodegradation may be in particular anthropogenically degraded areas such as landfills, contaminated areas of former factories and processing plants. These environments often contain polymer waste, especially in the form of microplastics. Biodegradation is a significant microbiological process in which bacteria or fungi with hydrolytic activity are essential. Polylactide (PLA) is one of the most commonly used biodegradable polymer materials. Its biodegradation in mesophilic conditions is difficult due to too low temperature. In order to improve and accelerate this process, microorganisms that can be effective in mesophilic biodegradation of PLA were selected. Isolated environmental bacteria, *Pseudomonas alloputida* and *Pseudomonas taiwanensis*, were identified as high hydrolytic towards complex organic compounds and polymer materials. They accelerate the degradation of PLA, as demonstrated by the results of infrared Fourier analysis (FTIR-ATR), SEM-EDX microscopic analysis and physico-mechanical values. Obtained results indicate the application potential of the tested bacteria to significantly decrease soil and compost contamination. This research was carried out as part of the project "Bioproduct accelerating the decomposition of biodegradable polymer materials in compost" (no. LIDER/48/0247/L-12/20/NCBR/2021) financed by The National Center for Research and Development.

Keywords: Biodegradation, polylactide, hydrolytic activity, environmental bacteria

Alicja Mazuryk, MSc. is a Research Specialist in the Łukasiewicz Research Network - Institute of Engineering of Polymer Materials and Dyes in Toruń, Poland. She graduated in 2019 with a master's degree in biotechnology at the Faculty of Biology and Earth Sciences, Nicolaus Copernicus University in Toruń, Poland. She has an experience in plant protection products and a variety of microbiological laboratory techniques. Main fields of research involve microbiological activity, biodegradation, composting and biocidal polymer materials. The main project she is involved focuses on developing bioproduct accelerating the biodegradation of polylactide. She is actively participating in biological and polymer conferences. Her research interests include biocides of plant origin and bioremediation in terms of microplastic pollution.

Daria Lisewska, MSc. graduated from the Faculty of Chemistry of the Nicolaus Copernicus University in Toruń, Poland. Currently, she works at the Łukasiewicz Research Network - Institute of Engineering of Polymer Materials and Dyes in Toruń as a Senior Specialist (research department), where she carries out work in the field of microbiology, performing biodegradation tests and determining the biocidal and fungistatic properties of polymer materials. She also deals with the processing of polymer materials and testing of physico-mechanical properties. Specialty - the influence of extrusion conditions on the degradation of classic and biodegradable polymers. She has experience in scientific work and R&D. During her scientific career, she participated in numerous training courses. She actively participated in scientific conferences. She is the author of 5 patent applications and participates in the development and implementation of research methods in an accredited research laboratory.

Dr Katarzyna Janczak is a Leader of a Research Group at the Łukasiewicz Research Network - Institute of Engineering of Polymer Materials and Dyes in Toruń, where she conducts interdisciplinary work in the field of processing polymer materials and microbiology. For 12 years she has been coordinating research in the field of biodegradation, composting and biocidal properties. She is also a quality control manager. Dr. Janczak defended her doctoral thesis in 2019 at the Faculty of Biology and Earth Sciences at the Nicolaus Copernicus University in Toruń, Poland. She conducted and took part in numerous training courses, presented research results at over 40 scientific conferences. She has 4 patents, 5 patent applications and was multiple nominees for national and international awards. Winner of the “Scientist of the Future 2023” award in the category: “Woman of science who changes the world”.

5. Challenges for the Development of a Secure Sustainable Society in the Face of Global Risks and Threats: Theoretical and Practical Aspects

Prof. Dr. Andrejs Vilks Dr.iur. Aldona Kipane, Dr. Kristine Kuznecova

ABSTRACT:

The development of society must be based on its sustainability. The current geopolitical situation is linked to extensive security challenges, new extremist manifestations, and threats at international and national levels. In today's circumstances, the classic conventional threats are complemented by new global threats: hybrid threats, terrorism, cybercrime, and transnational organised crime. The multiple factors affecting public security and its sustainable development are changing. The new types of threats destabilise international policies in the implementation of the strategy for the sustainable development of society, which requires an objectively determined need for their interdisciplinary study. The study process should take into account that the geopolitical situation is highly dynamic, and the perception and evaluation of its transformation are variable. The study results show that people face feelings of insecurity, anxiety, and depression in current socio-political settings. International global security index scores generally show adverse patterns in these parameters for countries and cities. The study uses a variety of information sources and cognitive tools to identify the state of security and its threats. Its results will contribute to the development of practical conceptual frameworks for the further development of a sustainable and safe society, taking into account global risks and threats. In a turbulent era characterised by risks, one needs to learn how to understand, anticipate, assess, manage, and mitigate their potential negative impacts. This requires appropriate action, technological solutions, and changes in attitudes.

Keywords: Security, society, sustainable development, threats

Andrejs Vilks Dr. iur. is a professor at the Faculty of Social Sciences of Riga Stradins University. From 2022 Member of the 14th Saeima (Parliament), acting in the field of defense, internal affairs and corruption prevention. The range of research interests is related to legal policy, criminology, sociology of law, deviantology. Author of more than 250 scientific publications.

Aldona Kipane is a Doctor of Laws, Assist.Professo of Faculty of Social Science of Riga Stradins University, Latvia. The range of research interests is related to criminology, criminal law; victimology, sociology of law.

Kristine Kuznecova Doctor of Laws (Ph.D), Docent of Faculty of Humanities and Social Science of Daugavpils University, Latvia. Twenty-six (26) scientific theses and publications have been published on the topic covered theoretical and practical aspects of prevention of security threats and risks in different security fields. The results have been presented international scientific conferences and seminars held, inter alia, in New York (USA), Warsaw (Poland), Bratislava (Slovakia), Vilnius (Lithuania), Riga and Daugavpils (Latvia).

6. Economic and Social Aspects of the Green Economy in Polish Regions

Dr Joanna WYRWA, Assoc. Prof. Dr. Anetta BARSKA, Dr Janina JĘDRZEJCZAK-GAS

ABSTRACT:

The aim of the article is to discuss the economic and social aspects of the green economy from a regional perspective. The intention is to outline the essence of the green economy and evaluate its importance to the implementation of sustainable development in Poland, with particular emphasis on Lubuskie Province. The research made it possible to compare that region with other regions in Poland in terms of selected aspects of the green economy, as well as to discuss the opportunities and threats related to its implementation. The green growth of Polish regions in recent years was compared and differences were highlighted with regard to the factors underpinning such disparities. The scope of the adopted indicators was dictated, on one hand, by the scope of issues to be considered, and on the other hand, by the availability of quality and comparable statistical data from the resources of Polish official bureaus and other domestic and foreign organizations. The research was carried out using elements of descriptive statistics and multidimensional analysis of secondary data. The data analysis method was used, while the construction of a synthetic development measure allowed for the ordering and comparison of the objects under analysis (Polish provinces). The obtained results will enable conducting a detailed analysis of changes taking place within Poland's environment, economy and society, and also indicate relevant regional differences.

Keywords: green economy, the green growth, Poland, sustainable development

Dr Joanna WYRWA is the Assistant Professor of Faculty of Economics and Management, University of Zielona Góra, Poland. She concentrates her research interests on the issues related to the creating innovations. She is the author and co-author of over 100 academic publications. She is actively working towards economic practice. She disseminates the results of these research projects and performed at scientific conferences, and by publishing articles in academic notebooks at universities as well as in academic journals. She has received several awards for my achievements in academic research, particularly for the series of publications. She is a member of the Polish Economic Society and editor of the Scientific Journal of Polish Economic Society in Zielona Góra. Research interests: macroeconomics, sustainable development, innovation, labour market, social capital.

Assoc. Prof. Anetta BARSKA is a professor at University of Zielona Góra, Faculty of Economics and Management, Poland. She is the author and co-author of more than 140 scientific publications. She actively participates in national and international scientific conferences as well as various research projects. She completed scientific internships in Belgium, Slovakia and Russia. She works for economic practice. One of the undertaken her research trends is the issue of formulating and implementing sustainable development strategies by both businesses entities as well as local government units. The result of this work has been her co-authorship of documents such as The Integrated Development Strategy of the Functional Area of the Oder Communes (2015), The Integrated development strategy for education and labor market in the Functional Area of the Oder Communes (2015), The Sustainable Development Strategy in the district of Zielona Góra (2013), A program to promote entrepreneurship for the city Żagań (2016).

Dr Janina JĘDRZEJCZAK-GAS is an assistant professor at University of Zielona Góra, Faculty of Economics and Management, Poland. She is the author and co-author of more than 110 scientific publications. She actively participate in national and international scientific conferences as well as various

research projects. She work for economic practice. She is an author of many studies and strategic documents both for the business sector and local government units.

7. Pursuit of Better Life? Subjective wellbeing of Keralite migrant women in the Washington Metropolitan Region

Anjali Elsa Skariah

ABSTRACT:

Migration significantly impacts Kerala's socioeconomic landscape particularly in employment and development. Keralite women, noted for their educational attainment and diverse migration destinations, have been instrumental in fostering transnational migration. Existing literature primarily focuses on 'left-behind women', Gulf domestic workers, and nurses, with limited theoretical explanations and considerations for wellbeing aspects. This study aims to address this gap by examining the subjective wellbeing of Keralite migrant women in the Washington Metropolitan region. Employing a human wellbeing approach, this qualitative study investigates wellbeing through three core dimensions – material, perceptual, and relational. In-depth interviews were conducted with forty migrant women from Kerala using a semi-structured questionnaire. The data were then transcribed and analyzed using Nvivo. The findings from the study indicates that the interplay of these dimensions collectively shapes individuals' experiences and perceptions of wellbeing. Hence, understanding and addressing these dimensions is essential for promoting comprehensive wellbeing and enhancing overall quality of life.

Keywords: Human wellbeing approach; Subjective wellbeing; Migrant women; Kerala

Anjali Elsa Skariah is a research scholar from Institute of Rural Management Anand, Gujarat, India. Her scholarly interests are centered on women and their wellbeing. Her current pursuits include conducting in-depth analyses of how socio-political structures and economic factors impact the lives and wellbeing of migrant women from Kerala.

8. Life Cycle Costing Methodology Applied to Electric Vehicle Li-ion Battery Pack

Anna Sanchez, Dr. Gabriela Benveniste, Dr. Víctor José Ferreira, Dr. Luis Alberto López, Isabella Bulfaro

ABSTRACT:

In the next few years, the evolution of Electric Vehicles (EVs) and Plug-In Hybrids (PHEVs) will be led by the increase in their autonomy, the decrease in battery prices, and the deployment of the network of charging points. The European Commission projects that by 2030, EV battery packs could come to at least half the cost of today's production (100 €/kWh instead of 200 €/kWh) due to mass production. The MARBEL H2020 project aims to design, develop, and demonstrate new modular, compact, lightweight, and high-performance battery packs alongside flexible and robust battery management systems for Battery Electric Vehicles (BEV) and PHEVs. These objectives are aligned with the commitment to lowering the cost of the batteries, for instance, by enabling a second life using reduced-cost operations. Besides the technological aspects, a dedicated stage of the project is devoted to assessing the economic aspects. This study analyses the economic viability throughout the battery's life cycle, considering a cradle-to-grave approach following the Life Cycle Costing (LCC) principles. Data is collected through a template with LCC categories such as capital cost, operating cost, maintenance cost and disposal cost distributed among experts involved in Li-ion battery pack production. The results will demonstrate that the design of the MARBEL battery presents economic benefits compared to SoA ones. Besides, it will enable the identification of the most critical aspects of producing an EV Li-ion battery pack and try to further reduce it in the future.

Keywords: Battery pack, electric vehicle, life cycle cost assessment, battery cost

Miss Anna Sánchez received her bachelor's degree in Industrial Engineering from the Polytechnic University of Catalonia (UPC) in 2021. She holds a master's degree in Industrial Engineering, specialisation in electrical, from the Polytechnic University of Catalonia (UPC) in 2024. At the end of her degree, she obtained a research scholarship in the Department of Engineering of Construction Projects at the UPC where she supported research and writing tasks of scientific articles in the field of energy storage systems for electric vehicles. She began her working experience at the Institute of Energy Research of Catalonia (IREC) in 2022, where she currently works as a project engineer focusing on environmental, economic, and social life cycle assessment (LCA, LCC and SLCA) and carbon footprint assessment in the energy production field, specifically in biogas production and electric vehicles batteries.

Dr. Gabriela Benveniste received her MsC in Industrial Engineering - Thermoenergetics by the Barcelona School of Industrial Engineering (ETSEIB-Universitat Politècnica de Catalunya-UPC-2003). She holds a Master's degree in Environmental Technology (Politecnico di Torino-2006). In 2021 she received her PhD in Environmental Engineering (UPC-2021) with her thesis "Life Cycle Assessment of innovative Li-S storage systems for electric vehicles". She has broad experience in environmental assessment, carbon footprint, circular economy strategies and ecolabelling in different sectors: food sector, construction sector, renewable energy, innovative technologies of electrical storage, hydrogen, materials, electrical mobility. She currently directs the research line of the Energy System Analytics (ESA) group of IREC relative to Energy, Regulation and sustainability, dealing with topics related to energy communities, management and flexibility of energy demand, energy poverty and social impacts.

- Dr. Víctor José Ferreira** is a senior researcher at the Institut de Recerca en Energía de Catalunya (IREC). He holds a degree in Chemical Engineering from the University of Carabobo, Venezuela (2000) and a PhD in Chemical Engineering from the University of Porto (2013). Victor's research focuses on developing materials for clean energy and sustainable technologies. Victor's primary research interest is in Life Cycle Assessment (LCA) and Costs (LCC) to contribute to the Circular Economy and Eco-designs of energy technologies. His goal is to optimize materials, processes, energy consumption, and end-of-life treatment by considering the environmental, economic, and social impacts of products, processes, and services throughout their lifecycles. Over the past five years, Victor has also been involved in R&D and industrial activities in the fields of Energy, Renewable Energy, Energy Efficiency, Environmental Analysis, and the development of innovative alternative materials for energy storage systems.
- Dr. Luis Alberto López** is a Civil Engineer from the Nogales Institute of Technology-ITN (Mexico, 2010). He holds a Master and PhD degree in Environmental Engineering by the Universitat Politècnica de Catalunya-UPC (Spain, 2016, 2021). His research focused on the analysis and evaluation (environmental-economic) of Circular Economy applications in the construction and demolition waste sector. He has 12 years of professional working experience collaborating and providing technical advisory to different public, private organizations in the management and application of environmental and sustainability projects in cities. Luis has more than 5 years of research experience in the field of circular economy, life cycle assessment, and evaluation & monitoring indicators. He has participated in multiple international conferences and collaborated with different Mexican and international organizations in the training and dissemination of the circular economy and sustainability, especially in the construction sector. He has extensive experience in the definition of circular economy and sustainability strategies, environmental assessment, construction design & materials, and solid waste management.
- Miss Isabella Bulfaro** received her bachelor's degree with honors in Chemistry in the University of Ferrara (Italy) in 2020. She holds her master's degree in chemistry, specialization in material chemistry, with honors in the University of Pavia (Italy) in 2022 with her thesis "Exploring and engineering the use of graphene flakes to boost the efficiency of perovskite solar cells" and the annex publication of the scientific article in the Journal of Material Chemistry A. She began her career in 2023 as a project engineer at the Institute of Energy Research of Catalonia (IREC) in Barcelona focusing her attention on the energy process and product sustainability evaluation through the life cycle methodology (ISO 14040-14044), specifically with the environmental, economic and social life cycle assessment (LCA, LCC and Social LCA) and Carbon Footprint assessment. She is carrying out her PhD in Environmental Engineering at The Polytechnical University of Catalunya (UPC). She is involved in European and national projects of sustainability evaluation in the field of biogas and hydrogen production, vehicle batteries and cleaning photovoltaic optimization.

9. Evaluating Regional Security Performance and Its Impact on Sustainable Economic Development and Competitiveness in Indonesia: A PROMETHEE-GAIA Based Approach

Arif Maulana PhDc, Dr. Hania Rahma, Prof. Dr. Ir. Akhmad Fauzi, Panji Yugo Putranto

ABSTRACT:

Strong regional security is crucial for economic competitiveness and regional. It fosters sustainable economic growth by attracting investment and reducing poverty and inequality. The Indonesian National Police (INP), a key player in domestic security, plays a vital role in maintaining regional security. This ensures sustainable economic development proceeds with minimal disruptions. This study aims to achieve two objectives. First, it will evaluate the regional security performance of Indonesia's 34 regional police forces in relation to regional competitiveness. Second, it will identify the most significant factors influencing this performance. To achieve these goals, the study employs a multi-criteria decision-making (MCDM) tool called the Preference Ranking Organization Method for Enrichment Evaluation (PROMETHEE-GAIA). Data from Indonesia's 2021 Crime Statistics and Social Capital Statistics will be used in the analysis. The study's findings are expected to demonstrate the effectiveness of PROMETHEE-GAIA in evaluating regional security performance, which is influenced by 14 key indicators. These findings can serve as valuable input for the INP to improve regional security performance across Indonesia.

Keywords: Regional security, sustainable economic growth, sustainable development, regional competitiveness, PROMETHEE-GAIA.

Mr. Arif Maulana is a PhD student in Regional and Rural Development Planning, Faculty of Economics and Management, Bogor Agricultural Institute. He has attended the 2022 MCDM International Conference in Portsmouth and the 25th International Conference on Economic Competitiveness and Sustainability (ECOS) 2023 in Brno. He actively participates in training in Quantitative and Qualitative Analysis (QCA), Multi Criteria Decision Analysis (MCDA), Analyze actors' games (MACTOR), Structural Analysis (MICMAC), and MULTIPOL Method (MULTIPOL). He also worked as a police officer in Specialized Crime Investigation Directorate at Metro Jaya's Regional Police Department, of Indonesian National Police. His research interests are in regional security and sustainable development.

Dr. Ir. Hania Rahma, M.Sc. received her doctoral degree in regional development from the Bogor Agricultural University in Indonesia in 2019. She works as a lecturer at Regional and Rural Development Planning, Faculty of Economics and Management at the same university, and is actively involved in various training in quantitative and qualitative analysis methods. Before joining the IPB, she had 11 years of experience as a researcher at the Center for Policy and Implementation Studies (CPIS) and 14 years as a lecture in Faculty of Economic and Business in University of Indonesia. She has involved in several research projects with various national and international organizations focusing on agricultural and rural development, anticorruption, and impact evaluation of some development programs in Indonesia. Her recent research interests are focused on sustainable development, green and blue economy, regional resilience, and economic valuation of natural resources and environment services.

Prof. Dr. Ir. Akhmad Fauzi, M.Sc. is a professor at Regional and Rural Development Planning, Faculty of Economics and Management, Bogor Agricultural University. He received his Ph.D in economics from Simon Fraser University, British Columbia, Canada. He has been visiting professor at University Kebangsaan Malaysia and Nha Trang University Vietnam. Apart from taking part at the national level as an expert in the ministry, he is also active in various international institutions and international scientific meeting forums. He is member of various national and international professional association. He is actively involved in various training in sustainability analysis methods and strategic analysis for various groups, including researchers, lecturers, NGOs, and the Indonesian military. His research interest in resource and environmental economics, fisheries economics, regional studies, and sustainable development.

Mr. Panji Yugo Putranto is a member of the Indonesian National Police (INP). Currently he is posted at Central Java's Regional Police Department. Mr. Putranto has leadership experience in policing, particularly domestic security, and auto-theft investigations. After a brief stint as a staff in INP's human resources strategic planning office, Panji served as an aide and speechwriter to the Deputy Chief of INP. He received his master's in public administration (MPA) from the University of Exeter in 2020 under the Indonesian Government's LPDP Scholarship. His previous academic works covers issues in public sector innovation, local-domestic security, and legitimacy in policing.

10. Strategies for Sustainable Groundwater Management in Rural South Africa: Insights from Two Municipalities.

Prof. Betty Claire Mubangizi, Joyce Loza, Kedibone Chueu, Dansile Daphney Cindi, Nontutuzelo P Gqola, Phumza Ntshotsho

ABSTRACT:

In South Africa, a country with a significant rural population, water scarcity, ecological degradation, and pollution are especially pronounced due to infrastructure inadequacies, financial limitations, and dispersed populations, making springs vital for water supply. This study investigates the governance structures within critical networks and evaluates their effectiveness in implementing groundwater governance, aiming to address the vulnerabilities of communities dependent on groundwater. Using a pragmatic paradigm that combines qualitative and quantitative research methods, the study centers on the Okhahlamba Local Municipality in KwaZulu-Natal, South Africa and the Matatiele Local Municipality in the Eastern Cape, South Africa. The findings highlight the adverse effects of poor land practices, invasive species, and improper waste disposal on water quality. It emphasizes the essential role of traditional leaders in rural water governance and the need for effective spring protection strategies at the municipal level. The study reveals the socio-cultural significance of springs, advocating for their comprehensive protection through integrated municipal planning and active stakeholder collaboration. In conclusion, robust natural resource management is critical for the sustainable protection of springs. The study promotes a collaborative governance model that includes government institutions, local communities, and traditional leaders, ensuring effective management and accountability. Recommendations emphasize integrating spring protection into municipal Integrated Development Plans, formalizing stakeholder roles, and enhancing community participation in water security decisions. This approach advocates for culturally sensitive management practices incorporating traditional knowledge to bolster groundwater management and spring protection in response to climate change challenges.

Keywords Groundwater, Governance, Collaborative Management, Community Participation, Climate Change

Betty Claire Mubangizi is a full Professor of Public Administration and Governance and an NRF-rated researcher. She holds the NRF/Research Chair in Sustainable Rural Livelihoods at the University of KwaZulu Natal's in the School of Management, IT and Governance where she previously served as Dean and Head of School. Prior to that Prof Mubangizi was the Dean of Teaching and Learning in the College of Law and Management Studies. With over 20 years of experience in a university environment, Prof Betty Mubangizi has a passion for excellence in teaching underscored by reflective practice, as well as an understanding of the needs of students from various backgrounds. She has published widely on issues of sustainable livelihoods and public governance; has successfully supervised many Doctoral and Master's Students and serves as an external examiner for several universities. Professor Betty Mubangizi is the Managing Editor of the African Journal of Governance and Development and Guest Editor of the Loyola Journal of Social Sciences.

Joyce Loza is a Conservation Specialist at the Maloti Drakensberg Programme in South Africa. She is responsible for natural resources management.

Ms Chueu Kedibone Chueu is a rangelands specialist in the Department of Agriculture, Land Reform, and Rural Development, South Africa.

Dan'sile Daphney Cindi is the Deputy Director of the Biodiversity mainstreaming directorate at the South African National Biodiversity Institute (SANBI) where she coordinates a network of partnerships between SANBI and other national departments, civil society, NGO's, Academia and local government with regards to ecological infrastructure.

Dr Nontutuzelo P Gqola is a Senior Specialist in Ecological Infrastructure at South African National Biodiversity Institute.

Dr Phumza Ntshotsho is a Senior researcher at the Council for Industrial and Scientific Research (CSIR). She is concerned about environmental degradation and committed to doing my bit to ensure that future generations inherit a habitable planet.

11. Socio-environmental actions concerted with the 2030 Agenda. Comparative analysis of Portuguese-speaking African countries

Assoc. Prof. Brigida Brito

ABSTRACT:

The 2030 Agenda for Sustainable Development has been taken up by the governments of Portuguese-speaking African countries as a challenge to be met. Given the different contexts the challenge of sustainability has been differently understood, which shows the existence of different strategic and political models, forms of intervention and a wide range of actors. The aim of this communication is to present a comparative analysis of five Portuguese-speaking African countries - Angola, Cape Verde, Guinea-Bissau, Mozambique and São Tomé and Príncipe - with reference to three of these Goals: the 13th, Climate action, the 14th, Protect marine life, and the 15th, Protect terrestrial life. The mid-term review has shown that it is difficult to fully realise these Goals, and that there is a particular focus on certain areas of action depending on the cases. A number of factors have conditioned the positive evolution of these three SDGs in these five countries: geographical and environmental particularities; extreme climatic events and socio-environmental impacts; ancestral socio-cultural characteristics that condition the preservation and the conservation; diversity of political strategies. The methodology focuses on a comparative analysis, based on a survey of previously defined indicators, such socio-environmental, the actors namely national governments, local communities, the civil society organisations and the International Organisations.

Keywords: Sustainable Development Goals, public policies, achievements, Environment, ancestral cultures, indicators

Brigida Brito is an Associate Professor, Deputy Director and Head of Quality at the Department of International Relations of Autonomous University of Lisbon, Deputy Director of OBSERVARE and Editor-in-Chief of JANUS.NET, e-journal of international relations. She is an integrated researcher at the Portuguese Institute of International Relations of the New University of Lisbon (IPRI-NOVA). She is interested in research on issues related to international cooperation and socio-environmental issues, including international agreements on the environment, climate change impacts and responses, local intervention in environmental preservation, including environmental education programmes, and the conservation of endangered species promoted by international partnerships. Alongside her academic activity, she has carried out consultancy work evaluating development cooperation projects in Portuguese-speaking African countries (Angola, Guinea-Bissau and São Tomé and Príncipe) promoted by international organisations (The World Bank Group and the International Labour Organisation, STEP-Portugal Project) and by Portuguese, Guinea-Bissau and São Tomé and Príncipe civil society organisations (NGO), with EU funding.

12. Modeling the Green Transition in the European Union: An Organic Market-Oriented Perspective

Prof. Dr. Călin Vegheș, Dr. Andreea Strâmbu-Dima, Dr. Laurențiu Stoenică

ABSTRACT:

In May 2022, in the context described by the short-term energy market disruptions generated by Russia's invasion of Ukraine and the longer-term concern for achieving a climate-neutral continent by 2050, The European Commission issued the REPowerEU plan aiming to reduce significantly the dependence on fossil-based energy sources by 2027. Despite the increased use of renewables, the green transition faced important economic, social, and environmental challenges and did not generate results consistent with the proposed objectives. The nature of the transitional process explains the gap between the objectives and results as an organic transition to clean sources of energy could be a more effective strategy allowing a gradual decrease of the share of the still important traditional sources in energy production and consumption and their corresponding balanced replacement with renewables ones. The paper presents the results of a modeling approach employing the Markov Chain Analysis aiming to assess and forecast, based on the secondary data and from a market-oriented perspective, the evolution of energy production and consumption structures, weighing the shares of renewables and traditional energy in the last three decades in connection to the relevant economic, social, and environmental dimensions of the sustainable development in the EU Member States.

Keywords: Green transition, Renewable energy, Energy market, European Union, Sustainable development

Dr. Călin Vegheș is a 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 the 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).

Dr. Andreea Strâmbu-Dima teaches Cultural Marketing at Bucharest University of Economic Studies, while managing a small company and volunteering in two non-profit organizations. She conducted several studies regarding sustainable development, cultural products, etc., and disseminated the results in scientific papers, case studies, and consultancy for non-profits. In her opinion, social change is created by each of us, therefore she is trying to inspire marketing students to get involved in the development and promotion of cultural products, which could lead them to an unexpected career path and will eventually contribute to the development of a sustainable economy and the wellbeing of the society.

Dr. Laurențiu Stoenică is a member of WEA (World Economics Association) and EMAC (European Marketing Academy). His current research interests center around services marketing, marketing research, markets' evolution, cultural consumption, educational marketing, consumer satisfaction, and obtaining relevant information on overall sustainable and sustainable community development. Dissemination of the results of the research supports building the ties between academic membership, and, more importantly, junior and early-stage researchers, and doctoral students, enhancing research capabilities.

13. Motivations for ESG Investment Among Leaders in the MICE Industry

Prof. Dr. Carola Hieker, Prof. Greg Gannon, Emily Philips, Sohil Majmudar

ABSTRACT:

Introduction: Exhibition and Events industry has received limited research attention in its relationship with sustainability. This study addresses this gap by exploring the primary motivations driving leaders to implement environmental, social, and governance (ESG) strategies and pursue sustainable development. **Methodology:** Employing a mixed method approach, the study used focus groups and interviews with stakeholders explored sustainability values. A survey of senior leaders, all members of a global association of events and exhibition businesses (n=76, response rate 21%), explored attitudes towards ESG values in the sector. **Findings:** Leaders displayed a strong understanding of the importance of ESG practices for the industry's reputation and expressed personal commitment to improving ESG performance. Focus group analysis revealed two main categories of influencing factors: external factors (regulatory changes, client pressure, talent attraction) and internal factors (desire to be an industry best practice and enhance overall industry reputation). **Contribution:** This research contributes to a growing body of knowledge on the Exhibition and Events industry by offering valuable insights into leaders' motivations for sustainable practices. The findings can potentially guide leaders in implementing effective ESG strategies and fostering a more sustainable business.

Keywords: Sustainability, Exhibition and Events industry, Leadership, ESG, Motivations

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- Professor Greg Gannon**, Richmond American University London is Department Head of Richmond Business School and Professor of Management. He is a founding trustee of an environmental charity focused on enabling individuals and communities to live more sustainable lives. His teaching and research centres on leadership, strategy and sustainability. He is a member of the university's Institute for Corporate Sustainability. He has developed training programmes in sustainability management and reporting and champions the UN Principles of Responsible Management.
- Ms Emily Philips MBA**, Richmond American University London, is Adjunct Associate Professor of Management. She is a casting agent and talent manager in film, television and theatre. Her teaching focuses on leadership and organizational behavior and her research focusses on events leadership attitudes towards sustainability.
- Mr. Sohil Majmudar MBA** is Adjunct Associate Professor of Mathematics at Richmond American University London. He teaches courses in mathematics, data analytics and computer applications for business.

14. TVET Lecturers' Professional Development Experiences - A Contrast to Sustainable Development: A Work Motivational Barricade

Dr. Charles Masoabi

ABSTRACT:

This paper investigated TVET lecturers pertaining to challenges regarding sustainable professional development for engineering lecturers. This uncertainty is caused by contradicting requirements regarding professional registration or affiliation. Besides government policies and Acts, there is limited literature on this topic. The study draws on the two-factor theory and the self-determination theory, combining human needs, environmental factors and social-cognitive concepts, which assisted in determining motivational and a-motivational factors among lecturers for sustainable professional development. A qualitative research approach using focus-group discussions was employed for deeper understanding of the phenomenon. The findings revealed that TVET lecturers have two categories: those who teach generic subjects and those who teach specialised Engineering fields. The DBE compels all lecturers to have a teaching qualification and register with SACE. However, lecturers for specialised Engineering fields would wish that their affiliation in professional bodies such as ECSA be recognised for lecturing at TVET institutions so that they may access continued professional development workshops in their fields of speciality. The study therefore appeals to the DHET to permit TVET engineering lecturers register with the accredited professional bodies relevant to their areas of speciality for sustainable quality education in engineering studies.

Keywords: qualifications, sustainable professional development, job satisfaction, self-determination, two-factor theory

Dr Charles Masoabi is a Senior Lecturer at the Central University of Technology, Free State. He gives Engineering Graphics and Design in the Department of Mathematics, Science and Technology Education. His research interest is in technology education, instructional methods and entrepreneurship education within TVET engineering sector. He is also a supervisor for Masters and Doctoral students in education.

15. Enabling Built Environments for Sustainable Living and Climate Resilience

Dr. Cheng Siew Goh

ABSTRACT:

Climate crises and a myriad of anthropogenic hazards have induced multitude of diverse impacts on the built environment. These complex and interconnected crises bring impacts on the functionality and integrity of the built environment in various material and immaterial manners, exacerbating the already intense socioeconomic conflicts. Sustainable solutions, if properly planned and implemented, can help build more holistic crises resilience in the built environment by enhancing the capability and capacity to increase preparedness and agility of built environments to disruptions. This paper reviews how sustainability solutions can provide a more solid framework to accelerate the adaptation to and mitigation of climate change impacts on the built environment. Apart from optimising biodiversity and natural resources-based-solutions, sustainable built environment also facilitates powerful partnerships via social transition for environmental governance and human. Sustainability isn't about decarbonising the built environment. Instead, sustainability would contribute by making systemic changes in the built environment for increased resilience to climate changes and socioeconomic challenges.

Keywords: Sustainability; Built Environment; Resilience; Climate Change; Socioeconomic Challenges

Dr. Cheng Siew Goh is an assistant professor at the Department of Architecture and Built Environment, Northumbria University. Her subject knowledge lies in sustainability, green buildings, life cycle management, risk management, construction project management, and construction innovations.

16. Bridging Analog and Digital Interventions of Behavior: An In-Depth Literature Review on Promoting Sustainable Practices

Prof. Dr. Christian Meske, Hüseyin Hussein Keke, Prof. Dr. Christiane Lehrer

ABSTRACT:

The global consequences of environmental degradation are becoming increasingly evident, thereby underscoring the necessity for the adoption of sustainable practices. In that context, humans' everyday decisions, both offline and online, have an important impact. Hence, interventions, including nudging approaches, that aim to promote sustainable behavior represent a promising avenue. Despite the growing importance, an overview of possible techniques for interventions in the offline- and online-world, their effectiveness as well as interrelation is missing. By conducting a comprehensive systematic literature review, this study identifies a broad and interdisciplinary landscape of behavioral interventions that have been tested experimentally in a variety of contexts. The study also examines the role of technology in facilitating sustainable actions, providing insights into how digital platforms can be leveraged. Our findings highlight the critical intersection of behavior, technology, and sustainability in addressing environmental challenges. We conclude with a discussion of implications for scholars and practitioners, and by providing an outlook to further research.

KeywordS: Sustainability, Behavior Change, Intervention, Nudging, Systematic Literature Review

Christian Meske is a Full Professor of Socio-technical System Design and Artificial Intelligence at the Institute of Work Science, Faculties of Mechanical Engineering and Computer Science, at Ruhr University Bochum, Germany. His research on the design and management of information systems has been published in journals such as *Business & Information Systems Engineering (BISE)*, *Business Process Management Journal (BPMJ)*, *Communications of the Association for Information Systems (CAIS)*, *Information Systems Frontiers (ISF)*, *Information Systems Journal (ISJ)*, *Information Systems Management (ISM)*, *Journal of Enterprise Information Management (JEIM)*, or *MIS Quarterly Executive (MISQE)*.

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Christiane Lehrer is an associate professor in the Department of Digitalization, Copenhagen Business School. She holds a Ph.D. from the Ludwig-Maximilians-Universität (LMU), Munich, Germany, and was a visiting scholar at the London School of Economics. Following her Ph.D. studies, she gained several years of industry experience as a strategy and M&A manager in a large telecommunications company. Before joining CBS, Christiane was an assistant professor and the head of the Competence Center for Digital Service Innovation at the University of St. Gallen, Switzerland. Christiane's research specialization concerns user behavior and data-driven innovation. Her work has appeared in the *Journal of Management Information Systems*, *European Journal of Information Systems*, and *Electronic Markets*, among other outlets, and has been presented at leading conferences such as the International Conference on Information Systems. Christiane currently serves as an associate editor for *European Journal of Information Systems* and *Electronic Markets*. ORCID.

17. The influence of AI Anxiety and Neuroticism in Attitudes toward Artificial Intelligence

Assoc. Prof. Dr. Dan Florin Stănescu, Dr. Marius Constantin Romașcanu

ABSTRACT:

This paper investigates the impact of AI anxiety and neuroticism on attitudes toward Artificial Intelligence (AI) through a quantitative approach. With the pervasive integration of AI technologies across diverse domains like social media platforms, smart devices, healthcare, and education, gaining insight into how individuals perceive and engage with AI becomes essential. A sample of 297 participants (32 males, 165 females) completed surveys assessing their levels of AI anxiety, neuroticism, and attitudes toward AI. The data were collected via Google Forms using the following structured questionnaires: Artificial Intelligence Anxiety Scale (AIA), Artificial Intelligence Scale (AIAS-4), and Neuroticism Scale. The findings indicate significant negative correlations between AI anxiety ($r=-.286$, $p<.01$), neuroticism ($r=-.196$, $p<.01$), and attitudes toward AI, suggesting that individuals with higher levels of AI anxiety and neuroticism are inclined towards adopting more skeptical viewpoints regarding AI technologies. Moreover, the AI anxiety subscales (learning, $r=-.152$, $p<.05$; job replacement, $r=-.257$, $p<.01$; sociotechnical blindness, $r=-.302$, $p<.01$, and AI configuration, $r=-.256$, $p<.01$) also showed negative significant correlations with the attitudes toward AI. At the same time, neuroticism showed significant positive correlations with the composite score of AI anxiety ($r=.301$, $p<.01$) and all its subscales (learning, $r=.219$, $p<.01$; job replacement, $r=.250$, $p<.01$; sociotechnical blindness, $r=.226$, $p<.01$, and AI configuration, $r=.277$, $p<.01$). Understanding the role of AI anxiety and neuroticism in shaping attitudes toward AI can inform the development of strategies to mitigate negative perceptions and foster more positive attitudes toward AI technologies.

Keywords: Artificial Intelligence, Anxiety, Neuroticism

Dan Florin Stănescu, Ph.D., National University of Political Studies and Public Administration – associate professor at the Faculty of Communication and Public Relations and coordinator of the Social Cognition & Communication of Emotions Laboratory of the National School of Political and Administrative Studies, Bucharest. Ph.D. in psychology at Hamburg University since 2006, Dan currently teaches "Strategic Management of Human Resources. Organizational Change", "Occupational health" and "Organizational counseling" courses within different Master programs. His research interests are primarily focused on areas such as human resources development, emotions study, organizational psychology, lifelong learning, and clinical psychology.

Marius Constantin Romașcanu Ph.D., National University of Political Studies and Public Administration - is a senior lecturer in Communication and Public Relations, at the National University of Political Studies and Public Administration, Bucharest, Romania. His specific interests are primarily focused on interpersonal communication, public speaking, human resources, and adult training. In the last 15 years, he has been involved in different types of training activities for both private and public organizations.

18. Combined use of Bacteria and Enzymes in the Degradation of Polymer Materials

Daria Lisewska, Dr. Katarzyna Janczak, Alicja Mazuryk, Natalia Puszczkowska

ABSTRACT:

The development of the plastics industry, pro-ecological directives and environmental problems related to the decomposition of biodegradable plastics create necessity to develop a way to properly manage waste from materials that should not be deposited in the environment. A bioproduct has been developed to be used for accelerating the biodegradation of polymer materials. The bioproduct includes carefully selected microorganisms and enzymes. It has been observed that metabolic activity of selected bacteria increases significantly in the presence of plastic material, causing degradative changes. In addition, enzymes were used that also stimulate the decomposition of polymer materials. Impact of bacteria and enzymes on polymer biodegradation was analyzed using different methods: BOD, mass loss, SEM-EDX and FTIR-ATR. Also the effect on plant growth was examined. Five bacterial strains were selected as the active ingredients of the bioproduct, including two bacterial strains from the designated collection and three isolated from environment. Four hydrolytic enzymes have been selected that have the potential to accelerate the decomposition of polymer materials. This research was carried out as part of the project "Bioproduct accelerating the decomposition of biodegradable polymer materials in compost" (no. LIDER/48/0247/L-12/20/NCBR/2021) financed by The National Center for Research and Development.

Keywords: bacteria, enzymes, biodegradation, polymer materials

Daria Lisewska, MSc. graduated from the Faculty of Chemistry of the Nicolaus Copernicus University in Toruń, Poland. Currently, she works at the Łukasiewicz Research Network - Institute of Engineering of Polymer Materials and Dyes in Toruń as a Senior Specialist (research department), where she carries out work in the field of microbiology, performing biodegradation tests and determining the biocidal and fungistatic properties of polymer materials. She also deals with the processing of polymer materials and testing of physico-mechanical properties. Specialty - the influence of extrusion conditions on the degradation of classic and biodegradable polymers. She has experience in scientific work and R&D. During her scientific career, she participated in numerous training courses. She actively participated in scientific conferences. She is the author of 5 patent applications and participates in the development and implementation of research methods in an accredited research laboratory.

Dr. Katarzyna Janczak is a Leader of a Research Group at the Łukasiewicz Research Network - Institute of Engineering of Polymer Materials and Dyes in Toruń, where she conducts interdisciplinary work in the field of processing polymer materials and microbiology. For 12 years she has been coordinating research in the field of biodegradation, composting and biocidal properties. She is also a quality control manager. Dr. Janczak defended her doctoral thesis in 2019 at the Faculty of Biology and Earth Sciences at the Nicolaus Copernicus University in Toruń, Poland. She conducted and took part in numerous training courses, presented research results at over 40 scientific conferences. She has 4 patents, 5 patent applications and was multiple nominees for national and international awards. Winner of the "Scientist of the Future 2023" award in the category: "Woman of science who changes the world"

Alicja Mazuryk, MSc. is a Research Specialist in the Łukasiewicz Research Network - Institute of Engineering of Polymer Materials and Dyes in Toruń, Poland. She graduated in 2019 with a master's degree in biotechnology at the Faculty of Biology and Earth Sciences, Nicolaus Copernicus University in

Toruń, Poland. She has an experience in plant protection products and a variety of microbiological laboratory techniques. Main fields of research involve microbiological activity, biodegradation, composting and biocidal polymer materials. The main project she is involved focuses on developing bioproduct accelerating the biodegradation of polylactide. She is actively participating in biological and polymer conferences. Her research interests include biocides of plant origin and bioremediation in terms of microplastic pollution.

Natalia Puszczkowska, MSc graduated in Chemical Technology. She also has education and experience in quality control, including as an internal auditor of the food safety management system according to ISO 22000, or in accordance with IFS/BRC requirements. From 2021, she is pursuing a PhD in the discipline of materials engineering at the Kazimierz Wielki University in Bydgoszcz, Poland. Conducts research in the field of processing biodegradable polymer materials. She carried out research work that resulted in, among others: 7 patent applications, team award in the 15th edition of the National SIMP Competition for the "Best Technical Achievement of 2021". She participated in modifying selected properties of poly(ϵ -caprolactone) with chalk filler, and developing a technology for producing profiles that are a component of plastic advertising boards. Scientifically interested in piezoelectric properties of polymer materials.

19. A Balancing Act: Evaluating Indonesia's Marine Economic Development Through a Sustainability Lens Using Grey Relational Analysis

Dewi Zaini Putri Ph.Dc, Prof. Dr. Ir. Akhmad Fauzi, Prof. Dr. Ir. Bambang Juanda, Dr. Hania Rahma

ABSTRACT:

Indonesia possesses abundant marine resources with significant potential for economic advancement. The maritime and fisheries sector stands as a key driver for sustainable economic growth through the development of maritime economy. The sector's management is geared towards achieving Sustainable Development Goals (SDG) 14, focusing on the conservation and sustainable utilization of oceans, seas, and marine resources for sustainable development. The development of the marine economy must be carefully monitored to prevent ecological damage. A comprehensive evaluation system is essential to gauge the progress of the marine economy, especially given the increasing utilization of marine resources. This study aims to establish an index system for assessing the quality of marine economic development across 34 provinces in Indonesia, based on four dimensions of sustainable development: economic, social, environmental, and governance. The analysis employs entropy to determine the weight of indicators for marine economic development and the Grey Relational Analysis (GRA) to evaluate the quality of provincial maritime economic development in Indonesia from 2010 to 2022. Research findings indicate a positive impact on the economic dimension but a negative impact on the environmental dimension of provincial maritime economic development in Indonesia during the specified period. Hence, there is a critical need for coordinated efforts in economic and environmental development.

Keywords: sustainable development goals, marine fisheries, composite index, Grey Relational Analysis

Dewi Zaini Putri is currently a Ph.D student in the Regional and Rural Development Planning Study Program at the Bogor Agricultural University (IPB University Indonesia). Dewi is also a lecturer at the Faculty of Economics and Business, Universitas Negeri Padang, Indonesia. She completed her undergraduate and master's education at Universitas Negeri Padang. Apart from actively teaching, She is also active in research and community service. Dewi was actively participate in training on natural resource valuation, Quantitative and Qualitative Analysis (QCA), and Indonesian Family Life Survey (IFLS) training by using the STATA program. Dewi is also a member of the Indonesian Economics Scholars Association (ISEI). Her research interests are about household behavior, environmental analysis, and sustainable development.

Prof. Dr. Ir. Akhmad Fauzi, M.Sc. is a professor at Regional and Rural Development Planning, Faculty of Economics and Management, Bogor Agricultural University. He received his Ph.D in economics from Simon Fraser University, British Columbia, Canada. He has been visiting professor at University Kebangsaan Malaysia and Nha Trang University Vietnam. Apart from taking part at the national level as an expert in the ministry, he is also active in various international institutions and international scientific meeting forums. He is a member of various national and international professional associations. He is actively involved in various training in sustainability analysis methods and strategic analysis for various groups, including researchers, lecturers, NGOs, and the Indonesian military. His research interest in resource and environmental economics, fisheries economics, regional studies, and sustainable development.

Prof. Dr. Ir. Bambang Juanda, MS is a Professor of Economics at Bogor Agricultural University (IPB), where teaches Macroeconomics, among other courses. He received his Ph.D in economics from University of Innsbruck, Austria. He once served as Head of Study Program (S2/S3) of Regional and Rural

Development Planning Sciences, Graduate School, IPB (2008-2016). His Research interests are in Behavioral & Experimental Economics, Fiscal Decentralization, Regional Economic Development, and Public Financial Management. He is a member of Indonesian Statistician Association (ISI), Indonesian Economist Association (ISEI), Field Head on Experimental Economics, ISEI of Bogor Raya, Member of Indonesian Regional Science Association (IRSA) and Member of Regional Development Economist Forum.

Hania Rahma received her doctoral degree in regional development from the Bogor Agricultural University in Indonesia in 2019. She works as a lecturer at Regional and Rural Development Planning, Faculty of Economics and Management at the same university, and is actively involved in various training in quantitative and qualitative analysis methods. Before joining the IPB, she had 11 years of experience as a researcher at the Center for Policy and Implementation Studies (CPIS) and 14 years as a lecture in Faculty of Economic and Business in University of Indonesia. She has involved in several research projects with various national and international organizations focusing on agricultural and rural development, anticorruption, and impact evaluation of some development programs in Indonesia. Her recent research interests are focused on sustainable development, green and blue economy, regional resilience, and economic valuation of natural resources and environment services.

20. A Research on Factors Affecting the Resilience of Cities: The Case of Eskişehir

Assoc. Prof. Dr. Emrah Ayhan, Özge Yıldırım, Elif Evren

ABSTRACT:

Considering that 50,783 people lost their lives in the 7.5 and 7.8 magnitude earthquakes centered in Türkiye on February 6, 2023, it is essential to understand how important it is for a city to be resilient and sustainable for natural and man-made disasters. Resilient cities are prepared for possible risks and dangers, can manage crises well, and minimize the level of impact of these crises. Therefore, this research aims to determine the factors affecting the resilience and sustainability of cities in Turkey and to contribute to minimizing the level of impact from disasters and crises. In this context, at least 10 civil society representatives, academicians, citizens, and public sector employees from Eskişehir, who are experts in resilient and sustainable city research fields, and affected by resilience and sustainability policies, are going to be interviewed within the scope of the governance approach. The primary data, which is going to be obtained from interviews, and secondary data from the literature are going to be comparatively analyzed by content analysis. After that the findings are going to be evaluated with SWOT Analysis. Consequently, research findings are expected to point out the current situation of Eskişehir province in terms of resilience sustainability. Depending on this, strategic goals and suggestions are going to be determined for decision-makers, citizens, Civil Society Organizations (CSOs), and researchers.

Keywords: Resilient City, Sustainability, Eskişehir, Disaster, Governance, Emergency Action Plan, Energy

Mr. Emrah Ayhan is currently Assoc. Prof. Dr. in the Political Science and Public Administration Department at Anadolu University (Eskişehir/TURKEY) where he also teaches different courses related to his research area. He finished his Bachelor in Political Science and Public Administration at Middle East Technical University in Ankara, in 2010. Then he graduated from the Political Economy of the European Integration master program at Berlin School of Economics and Law in Germany, in 2013. After that he finished his PhD in Political Science and Public Administration at Ankara Yıldırım Beyazıt University in 2019. He also worked there as Research Assistant between 2016 and 2019. His research priorities include; digital public administration (e.g., e-government, artificial intelligence, smart cities and big data), governance (e.g., civil society and political participation), comparative studies (e.g., political systems and administrations), organizational theories, migration (refugee and migrant rights), strategic management (e.g., resilient and sustainable cities, organizational capacity and performance, and human resources). He has published many articles, book chapters, and presented conference papers related to his research area.

Özge Yıldırım finished her Bachelor in Political Science and Public Administration Department at Bursa Uludağ University. She is currently a master student in Public Administration Master Program at Graduate School of Anadolu University. She is expected to be researcher in the scientific project of Anadolu University, namely "A Research on Factors Affecting the Resilience of Cities: The Case of Eskişehir".

Elif Evren finished her Bachelor in Public Administration Department at Bolu Abant İzzet Baysal University. She is currently a master student in Public Administration Master Program at Graduate School of Anadolu University. She is expected to be researcher in the scientific project of Anadolu University, namely "A Research on Factors Affecting the Resilience of Cities: The Case of Eskişehir".

21. Life Cycle Assessment of Construction Components of Schools in Southern Brazil

Julia Rataichesk Fiates, Prof. EneDir Ghisi

ABSTRACT:

Introducing energy efficiency techniques in schools can reduce energy consumption significantly, as Brazil has a large public education system. The main objective of this work was to select the set of construction components with the lowest environmental impact for use in schools in Florianópolis, southern Brazil, through life cycle assessment (LCA). Two types of walls, four types of roofs, and two types of window frames were studied. Ceramic bricks measuring 14x9x19cm and 9x19x19cm were considered for the walls. Wood and aluminium were used for the window frames, with single glass panes on all windows. For the roofs, fibre cement tiles with a PVC ceiling, a drywall ceiling, and a concrete slab were considered, as well as ceramic tiles with a PVC ceiling. Computer simulations were conducted using the EnergyPlus programme in order to determine the building's energy consumption. SimaPro was used to run the LCA. The construction of the building and one year of its energy consumption were analysed to select the combination of components that had the lowest impact on the building's life cycle. Finally, the set consisting of 9x19x19cm ceramic brick walls, wooden frames, and roof with fibre cement tiles and PVC ceiling presented the lowest environmental impact.

Keywords: Life Cycle Assessment. Public schools. Computer simulation. Buildings. EnergyPlus. SimaPro.

Ms. Julia Rataichesk Fiates is currently an undergraduate in Civil Engineering (fifth year) at the Federal University of Santa Catarina, located in Florianópolis, Southern Brazil. She has also completed the first year of the M.Sc. in Smart & resilient cities at JUNIA HEI, located in Lille, Northern France.

Prof. EneDir Ghisi obtained his PhD in Civil Engineering from the University of Leeds, in the UK, in 2002. He is currently a professor in the Department of Civil Engineering at the Federal University of Santa Catarina, located in Florianópolis, southern Brazil. So far, he has edited 10 books, published 14 book chapters, 181 conference articles and 169 journal articles. He has concluded the supervision of 14 PhD and 40 master's students. Currently, he supervises 12 PhD and 3 master's students. His research topics are thermal performance of buildings, energy efficiency in buildings, lighting, sustainability, building simulation, life cycle assessment, water consumption and rainwater harvesting in buildings. In studies carried out at Stanford University in 2023 (DOI 10.17632/btchxktzyw.6), 2022 (DOI 10.17632/btchxktzyw.4), 2021 (DOI 10.17632/btchxktzyw.3) and also in 2020 (<https://doi.org/10.1371/journal.pbio.3000918>) Prof. EneDir Ghisi was recognised as one of the 100,000 most influential scientists in the world for the whole career and also for 2022, 2021, 2020 and 2019.

22. Anxiety and Coping in Hungary: A Case Study of a Central Eastern European Comparative Research

Eszter Markó Ph.D.

ABSTRACT:

Historically and contemporarily, environmental threats generate individual and societal anxieties that have an effect on action, decision and wellbeing. The aim of this presentation is to show and to analyse qualitative data from Hungarian respondents on anxieties that affect their lives and how they cope with them. Source of this data is open questions from a CAWI representative survey conducted separately in Poland, Ukraine and Hungary in December 2023 – January 2024. The collected data will be compared with responses from the other countries, enabling a deeper understanding of the studied phenomenon and emphasising regional differences. Environmental anxiety research is up-and-coming in the Western scientific scene, however it is still relatively new in Central Eastern European countries. Therefore, reflection on further research directions on the indicated topic is essential. The research is a part of the broader research project: “ANSWER - ANxieties and Social coping strategies Within the last 50 years in the context of Natural EnviRonment: A Comparative Case Study of P.U.H.” (2022-2025). P.U.H is: Poland, Ukraine, Hungary.

Keywords: anxiety, coping mechanisms, Hungary, Central Eastern Europe, environment

Ms. Eszter Markó is a PhD student at the Department of Ethnography – Cultural Anthropology at University of Pécs. She is a project stipendist at Adam Mickiewicz University, Poznań, where she investigates environmental anxieties and coping mechanism in a Central Eastern European context.

23. Food Security and Self-sufficiency as a Factor of Country's Sustainable Development: Assessment Methods and Solutions.

Aizhan Tleuberdinova, Nailya Nurlanova, Farida Alzhanova, Perizat Salibekova

ABSTRACT:

A serious challenge of our time, threatening the whole of humanity, is the lack of food. The aggravation of this problem in many countries is caused by climate change, natural and man-made disasters, deterioration of the epidemiological and geopolitical situation. Therefore, food security is of great importance for achieving global Sustainable Development Goals. The purpose of the article is to study the problem of food security and self-sufficiency as a factor of the country's sustainable development, develop an author's methodology and assess the level of food self-sufficiency in Kazakhstan, substantiate ways to improve it. Hypothesis: proof/refutation of the need to increase food self-sufficiency in order to achieve country's sustainable development.

Methods: the author's methodology for assessing food self-sufficiency by individual product groups. Information: a critical literature's review, a comparative analysis of existing methods, official statistical data, FAO data, a list of socially significant food products, physiological norms of food consumption in Kazakhstan. Results: calculations showed an increase in the level of Kazakhstan's self-sufficiency for most types of socially significant food products in 2010-2022. However, there are big differences across the Kazakhstan's regions. The level of self-sufficiency was very high in 5 regions, and in 2 western regions there was a very low level of self-sufficiency in most types of products, except meat. Conclusions: to improve food security and ensure sustainable development of Kazakhstan, it is recommended to strengthen the state's regulatory role in the development of the agro-industrial complex, cooperation between agricultural producers and processing enterprises, the development of international food trade.

Keywords: Food security, food self-sufficiency, agricultural sustainability, region's sustainable development, methods for assessing food self-sufficiency.

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Prof. Nailya Nurlanova - Dr of Sciences in Economy, Sheff Researcher, Institute of Economics of the Ministry of Science and Higher Education of the Republic of Kazakhstan, Al-Farabi Kazakh National University, leader of national scientific school of regional economy, head of projects by the problems of regional imbalance, inequality, sustainability and inclusive development.

Dr Farida G. Alzhanova - Dr of Sciences in Economy, Sheff Researcher, Institute of Economics of the Ministry of Science and Higher Education of the Republic of Kazakhstan, Al-Farabi Kazakh National University where investigates the problems of innovation development, social and economic modernization, regional sustainability.

Ms Perizat Salibekovais is a Master of Economics and a PhD candidate, Program leader of the educational program "Business Analytics and Economics" at Almaty Management University, researcher at Al-Farabi Kazakh National University and the Kazakh-British Technical University. The main research area is the food industry and food security.

24. Sustainable Development Goals - Challenges for Western Macroregion of Kazakhstan (Aktobe, Atyrau, Mangystau, West-Kazakhstani regions)

Dr. Farida Alzhanova, Assoc. Prof. Dr. Aliya Aktymbaeva, Dr. Gulnara Nyussupova, Dr. Roza Kelinbayeva, Dr. Zaira Satpayeva, Saida Alzhanova

ABSTRACT:

The Sustainable Development Goals provide the basis for the development of national Framework Programs. However, for many developing countries with large territories and different natural and climatic conditions, achieving the SDGs presents great difficulties due to the complexity of their localization. Overall positive developments mask large differences and inequalities in achieving the SDGs. The purpose of the article is to study the main challenges for the regions of the Western macroregion in achieving the SDGs.

Hypothesis: The hypothesis of the article is that achieving national goals cannot be achieved without localizing the SDGs at the regional level. Methodology. Quantitative and qualitative data analysis methods, general scientific methods (systematization, specification, comparison), descriptive statistics methods. Information: Data from the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, regional statistical services, National Bank of Kazakhstan, the national reporting platform on Sustainable Development Goals Results: Analysis showed, the problems of achieving sustainable development goals in Kazakhstan and its regions have different levels of implementation. At the same time, achieving the SDGs requires local actions adapted to regional characteristics. Most SDG indicators do not provide specific levels of achievement, but only indicate trends. Indicators of economic sustainability in most cases reflect macroeconomic processes. Conclusions: SDG localization is required for integration into the system of regional policy mechanisms, the system of regional standards and regional programs.

Keywords: Sustainable regional development, socio-economic sustainability, ecological sustainability localizing of SDG, Western Kazakhstan

Dr Farida G. Alzhanova – Head of project, Dr of Sciences in Economy, Sheff Researcher, Institute of Economics of the Ministry of Science and Higher Education of the Republic of Kazakhstan, Al-Farabi Kazakh National University where investigates the problems of innovation development, social and economic modernization, regional sustainability.

Aktymbaeva Aliya - PhD, Associate Professor, dean of the Faculty of geography and nature management of the Al-Farabi Kazakh National University. Aktymbaeva A. was the responsible executor and head of research projects related to tourism on the basis of grant funding and business contracts in the areas of the Ministry of education and science of the Republic of Kazakhstan, UNDP. Winner of the badge "For services to the Tourism Industry" of the Republic of Kazakhstan. Currently, he has more than 100 scientific works on tourism, including co-author of digital educational resources in the specialties "Tourism" (2013), "Hotel Management" (2014), author of monographs "Tourism of Kazakhstan" (in three languages, 2015) and "Agritourism" (2017).

Dr Gulnara Nyussupova - Dr Sc Geography. Prof Head of the Department of Geography, Land Management and Cadastre, Faculty of Geography and Environmental Management, Al-Farabi Kazakh National University where investigates the problems of geourbanism and geodemography, GIS in economic and social geography, demographic processes, human potential and human resources.

- Dr Roza Kelinbayeva** - PhD, Department of Geography, Land Management and Cadastre, Faculty of Geography and Environmental Management, Al-Farabi Kazakh National University, where investigates the problems of Environmental management using geoinformation technologies, Information systems for design in inter-farm land management, ArcGIS Spatial Analyst.
- Dr Zaira Satpayeva** -PhD, Head of Department of Innovation and Technology Development of Institute of Economics Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan, Almaty.
- Saida Alzhanova** – master of technology, Satbayev University, Almaty.

25. Toward an Integrated Social-ecological Assessment of a Traditional Upland Rice-based Agroecosystem in Southern Philippines

Prof. Dr. Florence L. Zapico, Catherine Hazel Aguilar

ABSTRACT:

Located in Southern Philippines, the Sarangani traditional agroecosystem currently sits at the nexus of environmental degradation, bio-cultural erosion, and pervasive modernization. Upland farms in these remote areas are inhabited predominantly by smallholder tribal households who cultivate rice landraces using traditional farming methods. Integrated agroecosystem assessment revealed Sarangani social-ecological system (SES) components, along with connections and feedback loops that underlie their interactions. Drivers, Pressures, State, Impact, and Response model of intervention (DPSIR) and Causal Chain Analysis (CCA) jointly identified drivers of change in this SES, revealed its key features, and investigated the whole gamut of issues impacting it. CCA, based on an Ishikawa cause and effect diagram, identified upland poverty, tribal culture and government mismanagement as root causes of intractable problems in the Sarangani SES. DPSIR, on the other hand, successfully gauged the suitability of responses put into place by the local government. Study results can thus be used as bases for policy/programs that will resolve problem root causes in the Sarangani SES. Moreover, steps must be undertaken to mitigate the effects of climate change which has proven to be utterly devastating in these vulnerable areas. Government-led information drives, infrastructure and logistical assistance will go a long way in enhancing the resilience and adaptability of tribal communities. Finally, for traditional agroecosystems like the Sarangani SES, interventions that uphold human well-being while conserving tribal culture/resources and preserving the environment are therefore warranted.

Keywords: social-ecological systems, DPSIR, causal chain analysis, traditional agroecosystem, Philippine uplands

Dr. Florence L. Zapico is a distinguished professor at Mindanao State University-General Santos City, where she has made significant contributions to the field of plant genetic resources. Her pioneering research focuses primarily on the conservation and management of traditional rice varieties in Southern Mindanao. Dr. Zapico's work is especially notable for its engagement with tribal communities, facilitating a valuable exchange of knowledge and practices that underpin the sustainability of these critical agricultural resources. By working closely with these communities, she not only preserves traditional agricultural practices but also empowers indigenous groups by bringing their needs and rights into the foreground of local agricultural policy. Her efforts have been instrumental in assisting the local government to craft informed policies that support the conservation of genetic diversity and the rights of tribal communities.

Ms. Catherine Hazel Aguilar is a researcher at the Leibniz Institute of Plant Genetics and Crop Plant Research, where she specializes in the conservation and management of plant genetic resources.

26. Sustainable behaviors of young Polish consumers: impact on logistics and business strategies

Dr. Gabriela Hanus

ABSTRACT:

The main objective of this paper is to analyze the sustainable behavior of young Polish consumers. The specific objectives are to find out the respondents' opinions on the most disturbing environmental phenomena and actions that negatively affect the environment. In addition, an important goal is to learn about their self-assessment of pro-environmental attitudes and to identify pro-environmental actions most often taken by young consumers, as well as to assess sustainable actions taken by companies in the logistics area. The results are based on empirical research concerning sustainable behaviors of young Polish consumers in a research sample of 50 consumers. The research was conducted in April and May 2024 and covered the entire area of Poland. The research shows that respondents have a good assessment of their environmental attitude. As many as 90% of them perceive growing environmental and social problems. The most worrisome environmental issues in their view are increased garbage and waste, polluted air and water, dangerous chemicals in everyday products, and climate change-the greenhouse effect. Among the activities that have the most detrimental impact on the environment, respondents identified deforestation, improper waste management, consumerism, pollution from pesticides used in agriculture and the burning of fossil fuels. Three-quarters of respondents believe they can contribute to improving the environment with their actions, and nearly two-fifths say they are willing to pay more for environmentally friendly products or products from companies that support social causes. Respondents also take a number of individual pro-environmental measures, and among them they are most likely to turn off lights, use reusable bags, segregate trash, use reusable bottles, conserve water and choose environmentally friendly forms of delivery for purchased goods. However, when making purchases, most of them do not choose products offered by companies that are actively involved in environmental activities. Up-to-date knowledge on the sustainable behavior of young consumers is particularly important for both the business and government communities, as it provides information on tailored strategies and policies that align with evolving values, ensuring competitiveness and meeting environmental and social goals. Limitations of the study include the small sample size of the empirical study, as well as the limited nature of the survey questionnaire.

Keywords: sustainability, social responsibility, sustainable consumer, young generation consumer

Gabriela Hanus is a PhD, Assistant professor at the Department of Economic Logistics at the Faculty of Management of the University of Economics in Katowice. Author of several dozen scientific publications on new trends in consumer behavior and its impact on the functioning of enterprises in the logistics industry.

27. Challenges and Perspectives of the Startup Ecosystem in the Development of Innovative Economy in Georgia

Prof. Dr. George Abuselidze

ABSTRACT:

The processes of introduction of technology and innovation ecosystem in the economic development of the country have attracted special attention in the global world in the conditions of pandemic and post-pandemic. Accordingly, the research focuses on the formation and development models of modern start-up ecosystems, processes and determinants that ensure their transformation into innovations and the transfer of resources for economic development in the regions. The aim of the paper is to determine the main directions that can contribute to the development of startup ecosystems, taking into account global trends and state-specific practices; to analyze the impact of the presence of technology and innovation ecosystem on the business industry, production scale, output and overall economic growth of the country. The research is based on the methods of grouping, comparison, analogy, analysis, generalization and systemic-structural approaches. As a result of the research, startup-ecosystems were defined as an institutional mechanism that is open to the expansion of intersectoral networks and changes the competitive market environment in favor of the architecture of a stable innovative economy. The examples of Estonia, Spain, and Britain show the potential of developing a national startup ecosystem model that prioritizes long-term development, state technical self-sufficiency, and the ability to expand to new markets.

Keywords: innovative economy, ecosystems, technoparks, startups, innovations, R&D, economic development.

Dr. George Abuselidze is Professor of Faculty of Economics and Business, Batumi Shota Rustaveli State University, Georgia and Director of Sustainability Development Research Institute. His research interests include Economics, Econometrics, Finance, Business and Social Sciences (miscellaneous). He has published a number of papers in international journals and volumes in book series. He also played instrumental role in different prestigious internal collaborative research project with Georgia, USA, Canada, Lithuania, Poland, Ukraine, Turkey and etc.

28. Catharsis Project: Realistic Solutions for Climate Change Mitigation

Andrea Giuliano, Tommaso Benedetti, Danmeng Yang, Federico Menghini, Fabrizio Lovisetti, Dilara Aslan, Dr. Gianluca Carraro

ABSTRACT:

Climate change mitigation is primarily seen as a challenge for decision makers. However, its success depends on a broader involvement of society, which can be obtained with education and by searching for multidisciplinary skills to be deployed. This perspective guided the formation of the student project “Catharsis” at the University of Padova. Catharsis (from the Greek “κάθαρσις”, “purification”) aims at finding realistic solutions to cleanse the energy sector of carbon emissions and pave the way for more sustainable development trajectories. Participants are students from different disciplines, who are asked to choose a topic (e.g., technology, environment, economy etc.), identify an issue associated with climate change and, by working in team, propose a feasible solution to solve it.

The main outcome is that of quantifying the impact of current technologies and practices and suggesting improvements or alternatives. Students gain experience in scientific research, implement skills acquired during their university classes and work with others coming from different backgrounds and countries. Catharsis contributes to making people aware of effective sustainable actions, fueling the transition from the bottom. The work is shared via social networks and by organizing public informative events to spread awareness and educate about sustainability among new generations.

Keywords: Change, Awareness, Education, Mitigation, Energy Systems, Social media

Mr. Andrea Giuliano is a master student in Energy Engineering of the Department of Industrial Engineering of the University of Padova, Italy. He graduated from a first level study course in Energy Engineering with a thesis on Energy Education. He’s the Project Leader of the university students’ project “Catharsis” where he researches innovative solutions to reduce climate change impact of human activities on society and environment. In the project he has assessed energy related issues ranging from social acceptability of renewable energy sites to energy consumption perception with the aim of fostering the transition to a sustainable society through social media informative posts and articles.

Mr. Tommaso Benedetti is a master student in Energy Engineering, University of Padova, Italy. Part of the “Catharsis project” since the beginning (2022), he works on social aspects related to climate change. He founded a group which promotes a more conscious lifestyle and organizes public events to spread awareness about climate change.

Ms. Danmeng Yang is a master student in Data Science, University of Padova, Italy. Part of the “Catharsis project”, she works on reducing energy consumption in communication and promoting more environmentally responsible behaviors from individual to society level. She also deals with raising the awareness of climate justice and encouraging climate actions worldwide as individuals and young professionals through social media.

Mr. Federico Menghini is a master philosophy student at the University of Padova, Italy. Member of the “Catharsis Project”, he studies and searches for affordable policies and economics to promote sustainability. His focus is on share policies on green bonds and other financial operators using comparative methods between EU and foreign countries economies. He also works as certification consultant in the manufacturing sector.

- Mr. Fabrizio Loviseti** is a master student in Physics at the University of Padova, Italy. Member of the “Catharsis Project”, he studies how technology can help society decrease consumption of resources. He is also part of an association to promote sustainability in the city of Brescia.
- Ms. Dilara Aslan** is a Bachelor’s student in Information Engineering, University of Padova, Italy. Member of the “Catharsis Project”, she studies the findings of the scientific literature about climate change mitigation to analyze better ways to adapt our lives to the changing circumstances.
- Gianluca Carraro** is an Assistant Professor (RTDa) of the University of Padova in the scientific-disciplinary sector “Energy and Environmental Systems”. He received the Master’s Degree in Energy Engineering, in 2017, and the Ph.D. in Industrial Engineering (curriculum Energy Engineering), in 2021, at the University of Padova, Italy. He was a post-Doctoral researcher with a Research Grant on the project “Smart optimization of multi-energy systems, storages and interactions with energy networks”. His research activities include two main topics: 1) experimental evaluation, study of theoretical aspects and of the dynamic behavior of energy production and recovery systems powered by renewable, waste heat and fossil fuels; 2) design and off-design modeling, and optimization of the design and operation of complex energy systems, which are composed of groups of generating units that convert fossil, renewable, and unconventional energy sources into different forms of energy required by users. He is the teacher in charge for the course “Design and optimization of sustainable energy systems” in the international degree in Energy Engineering at the University of Padova. Since October 2023 he has been the coordinator of the student project “Catharsis - realistic energy strategy to mitigate climate change”, born in 2022 at the University of Padova.

29. Demographic Sustainability and Social Demands in the Regions of Western Kazakhstan

Dr. Gulnara Nyussupova, Dr. Roza Kelinbayeva, Kenespaeva Laura, Damira Tazhiyeva, Gaukhar Aubakirova, Dr. Gaukhar Aidarkhanova, Abzal Zhakypbek,

ABSTRACT:

In the Western Kazakhstan region, demographic stability is associated with the presence of a relatively large proportion of young people and the possibility of using the demographic dividend. Purpose of the study: analysis of demographic processes and corresponding social demands in Western Kazakhstan regions for sustainable development. Hypothesis: it is necessary to include a demographic aspect in planning the development of Kazakhstan regions in order to identify current social needs for their further solution and sustainable development. Methodology: methods of systemic, statistical analysis, typology, cartographic and GIS methods, etc. The information base was the data of Bureau of National Statistics, national SDG reporting platform. Results: Currently, there is polarization and regionalization of the main demographic processes in Kazakhstan. High rates of natural growth in most Western Kazakhstan regions are close to a critical state, because, basically, the pace of socio-economic development is much lower and cannot provide new generations with an acceptable standard of living. Conclusions: the development of tools for analyzing demographic processes and corresponding social demands is required in order to mitigate negative consequences for people, society, the economy and the environment, as well as to take advantage of the opportunities that open up with demographic changes.

Keywords: Sustainable development, demographic processes, social demands, Western Kazakhstan, demographic dividend

Gulnara Nyussupova is Professor of the Faculty of Geography and Environmental Sciences of the Al-Farabi Kazakh National University. She has been involved in research activities for over 30 years. The researcher specializes in the study of human potential and human development, socio-demographic processes, geo-urban studies, quality of life of the population, GIS in socio-geographical research, etc. She has carried out a number of fundamental and applied research as a scientific supervisor and responsible executor. Successfully implemented research projects within the framework of targeted funding programs, grants from the Ministry of Education and Science of the Republic of Kazakhstan and international projects.

Roza Kelinbayeva is a certified GIS specialist. From 2009 to the present, she has been working as a senior lecturer at the Department of Geography, Land Management and Cadastre of al-Farabi KazNU. She participated in the development and creation of a series of atlases, including the National Atlas of the Republic of Kazakhstan, the Atlas of Atyrau and Mangystau regions, the Atlas of natural and man-made hazards and emergency risks, etc. She is the author of more than 60 scientific works, including co-author of 4 monographs, performer of more than 30 international and state research projects.

Kenespaeva Laura - senior lecturer at the Department of Geography, Land Management and Cadastre. Education: in 2002 she graduated with honors from the Kazakh National University. al-Farabi with a degree in Geography, in 2004 she graduated with honors from the Master's program of the Faculty of Geography of Kazakh National University. al-Farabi with a degree in "6M060900-Geography". In 2019, she graduated from doctoral studies in the specialty "6D060900 - Geography". Scientific direction: associated with the study of problems of territorial organization of the population, geo-urbanism and regional planning of the Republic of Kazakhstan. Takes an active part in

international and republican scientific events, including the responsible executor of the scientific project "Comprehensive geographical assessment of the sustainable development of large cities of the Republic of Kazakhstan." Has more than 60 scientific papers, including in the Scopus database.

Damira Tazhiyeva - senior lecturer at the Department of Geography, Land Management and Cadastre. Education: in 2012 she graduated with honors from the Master's program of the Faculty of Geography of al-Farabi Kazakh National University with a degree in "6M060900-Geography". In 2018, she graduated from doctoral studies in the specialty "6D060900 - Geography". Scientific direction: associated with the study of socio-demographic processes, geo-urbanism and urban sustainable development of the Republic of Kazakhstan. She is a senior researcher for subprogram No. 7: "Assess the socio-economic development of the West Kazakhstan region in the context of sustainable development" of the program: BR 21882122 "Sustainable development of natural-economic and socio-economic systems of the West Kazakhstan region in the context of green growth: a comprehensive analysis, concept, forecast estimates and scenarios." Has more than 20 scientific papers, including in the Scopus database.

Aubakirova Gaukhar is a senior lecturer at the Department of Geography, Land Management and Cadastre. Education: In 2009, she entered the Al-Farabi Kazakh National University at the Faculty of Geography, majoring in "050609 Geography" and graduated with honors in 2013. In 2014, she was admitted to the Faculty of Geography and Environmental Management for a master's degree in the specialty "6M060900 - Geography" and in 2016, received a master's degree in natural sciences. 2020-2023 studied in PhD doctoral studies in the specialty "8D01503 - Geography" at Al-Farabi Kazakh National University. Actively participates in scientific international forums and scientific and methodological conferences. She has textbooks - 2, monographs - 2, articles in highly rated journals in the Scopus database - 3 (H-index = 1), in the WoS database - 1. Maintains close communication with schools of the local education department and the republican center "Daryn", in which since 2015 she has been a member of the jury of the Olympiad and scientific projects of schoolchildren in geography.

Aidarkhanova Gaukhar is a lecturer at the Department of Geography, Land Management and Cadastre of Al-Farabi Kazakh National University. In 2024, she defended her dissertation on the topic: "Assessment of socio-demographic indicators of human capital in the Republic of Kazakhstan", submitted for the PhD degree. Aidarkhanova Gaukhar began her research activities in 2016 at the Scientific and Technological Park of al-Farabi KazNU. Currently she is a lecturer and researcher at al-Farabi KazNU. She specializes in the field of research of human capital, human development, socio-demographic processes, labor resources, gender equality in the labor market, etc. She actively participates in research projects of the Ministry of Education and Science of the Republic of Kazakhstan. Author of more than 20 scientific publications, 6 of them in peer-reviewed publications with impact factor.

Zhakypbek Abzal is a lecturer at the Department of Geography, Land Management and Cadastre at Al-Farabi Kazakh National University. Education: Received a Bachelor of Science degree in 2016. In 2018, he graduated from the master's program in the specialty "6M060900 - Geography". In 2022, he graduated from PhD studies at Al-Farabi Kazakh National University. Scientific direction: GIS technologies - development and use of geographic information systems for the analysis of geographic data and land management. Pedagogical geography - development of methods for teaching geography, including the integration of new technologies into the educational process to increase its effectiveness.

30. Beyond Growth: A Provincial-Level Assessment of the Doughnut Economy's Potential in Indonesia

Dr. Hania Rahma, Prof. Dr. Ir. Akhmad Fauzi,

ABSTRACT:

The focus on a growth-oriented development paradigm has led to unsustainable outcomes such as environmental degradation, resource depletion, increased inequality, and compromised social well-being. An alternative approach known as the Doughnut Economy has emerged, offering a new economic development model that aims to guide humanity towards staying within planetary boundaries. The Doughnut model visualizes sustainable development with an ecological ceiling as the outer limit and a social foundation as the inner boundary. This study attempts to create a Doughnut Economy Index for 34 provinces in Indonesia, categorizing them into four groups to assess how well they meet societal needs while remaining within planetary limits. The index, derived from a simple formula, yields two indices: social performance and ecological damage. The research reveals that only three out of the 34 provinces in Indonesia fall within the safe zone of the Doughnut model. Shortfall issues are prevalent in Eastern Indonesian provinces like Papua, Maluku, and Nusa Tenggara Islands, while overshoot concerns are more prominent in Java and Kalimantan provinces.

Keywords: Growth-oriented paradigm, Doughnut Economy, sustainable development, regional development, Doughnut Economy Index

Dr. Hania Rahma received her doctoral degree in regional development from the Bogor Agricultural University in Indonesia in 2019. She works as a lecturer at Regional and Rural Development Planning, Faculty of Economics and Management at the same university, and is actively involved in various training in quantitative and qualitative analysis methods. Before joining the IPB, she had 11 years of experience as a researcher at the Center for Policy and Implementation Studies (CPIS) and 14 years as a lecture in Faculty of Economic and Business in University of Indonesia. She has involved in several research projects with various national and international organizations focusing on agricultural and rural development, anticorruption, and impact evaluation of some development programs in Indonesia. Her recent research interests are focused on sustainable development, green and blue economy, regional resilience, and economic valuation of natural resources and environment services.

Prof. Dr. Ir. Akhmad Fauzi, M.Sc. is a professor at Regional and Rural Development Planning, Faculty of Economics and Management, Bogor Agricultural University. He received his Ph.D in economics from Simon Fraser University, British Columbia, Canada. He has been visiting professor at University Kebangsaan Malaysia and Nha Trang University Vietnam. Apart from taking part at the national level as an expert in the ministry, he is also active in various international institutions and international scientific meeting forums. He is member of various national and international professional association. He is actively involved in various training in sustainability analysis methods and strategic analysis for various groups, including researchers, lecturers, NGOs, and the Indonesian military. His research interest in resource and environmental economics, fisheries economics, regional studies, and sustainable development.

31. Green Alliances: Unraveling the Impact of Supplier Collaboration on Sustainability and Performance in Chinese Firms

Hao Zheng PhDc,

ABSTRACT:

The global business landscape is undergoing significant transformations due to heightened environmental concerns, increasing regulatory pressures, and changing stakeholder expectations. In response, companies are exploring strategies to ensure their operations contribute to sustainability. One effective approach is collaborating with suppliers on environmental initiatives. However, the literature presents mixed findings on how such collaboration affects a company's environmental performance. This study adopts the "Structure-conduct-performance" framework to explore the potential of supplier environmental collaboration to encourage companies to adopt lean practices, and how these practices in turn can enhance environmental performance. Furthermore, this study investigates the moderating role of supplier behavior uncertainty on the relationship between environmental collaboration with suppliers and lean practices. The study uses survey data collected from 161 companies in China. The proposed model is evaluated via structural equation modeling and regression analysis. The findings indicate that environmental collaboration with suppliers enhances lean practices, which significantly improve a company's environmental performance. Additionally, the study discovered that uncertainty in supplier behavior negatively moderates the relationship between environmental collaboration and lean practices. The study concludes by discussing its theoretical contributions, managerial implications, and future research directions.

Keywords: Sustainability, Environmental collaboration with suppliers, Lean practices, Structure-Conduct-Performance framework, Supplier behavior uncertainty.

Mr. Hao Zheng is a PhD candidate at the University of Nottingham, with an impressive portfolio of scholarly work. His academic journey is marked by numerous publications, showcasing his commitment to advancing knowledge in his field. Hao's research interests are diverse and forward-thinking, encompassing sustainability; artificial intelligence forecasting; blockchain applications; and supply chain optimization. He also delves into risk management, exploring innovative systems in the face of disruption; developing agility in this digital age; building resilient supply chains; and investigating the value co-creation process. This blend of interests highlights Zheng's holistic approach to addressing complex challenges in today's dynamic environment, aiming to contribute significantly to his field through rigorous research and innovative solutions.

32. World Culture & the United Nations' Sustainable Development Agenda

Henry Stine

ABSTRACT:

The analytical framework of world-society theory (WST) posits that international actors (i.e., intergovernmental associations like the United Nations (UN), international nongovernmental organizations (INGOs), networks of expert groups, policy think tanks, advocacy groups and consultancies) proliferate and practice a 'world culture' comprising global norms, conventions, cognitive models, and organizational logics. Nation-states are, therefore, embedded in and influenced by this greater institutional environment. WST is one of two main theories that spell out the institutions of world society, the other being English School institutionalism. While the English School emphasizes the social structure of globalization as a set of institutions, WST emphasizes the causal force of cultural aspects including universalism, rationalization, and scientization. My analysis holds the insights of WST up to a UN-sponsored policy report titled Stockholm+50: Unlocking a Better Future (2022), to advance sociological debate in two ways. One, to elucidate deeper socio-cultural dilemmas/paradoxes in the UN's sustainable development agenda, including dilemmas regarding policy coherence, jurisdictional boundaries, accountability, multilateralism and sovereignty. And two, to explore how different actors in the global political system can strategize world cultural precepts and norms today. I argue that, by working to clarify these areas of cultural dissonance in *Unlocking a Better Future*, the pursuit of collective action and convergence thinking becomes a more transparent process.

Keywords: World-society theory, cognitive sociology, United Nations, sustainable development

Mr. Henry Stine is a graduate student at Dalhousie University, completing his MA thesis in the department of Sociology & Social Anthropology. In addition to working as a teaching assistant for Sociology Professor Chris Helland, and as a part of different research projects spanning topics in family sociology and Canadian immigration policy, Henry researches and writes about socio-cultural issues in international politics and in particular, issues regarding collective action, sustainability, and sovereignty. Henry is passionate about utilizing theory to shed light on underrepresented or taken for granted aspects of international policymaking, as he is planning to work in the field following the completion of his MA.

33. Climate change management – problems of legislation in the context of sustainability

Assoc. Prof. Dr. iur. Inga Kudeikina, Prof. Dr. iur. Sandra Kaija

ABSTRACT:

Climate change is today's reality. Progress in technology and a rise in consumption, which are attributable both to the growth of population and to the increasing welfare of society and a rise in the standards of living, are causing adverse impacts, such as the depletion of natural resources and negative climate change. The environment and its components – water, air, earth, anthropogenic factors – are vital for human life. Meanwhile, human well-being as a prerequisite for dignified life cannot be disregarded. Challenges arise in terms of proportionality: how meeting an individual's needs can be balanced with the preservation and sustainable use of natural resources. Climate change, which is caused by human interference in the natural environment, disturbs the natural balance and reduces the availability of resources, which in the long run limits opportunities for the development of countries and may lead to uncontrolled migration, illegal fight for resources and other geopolitical problems. It is important to have a transparent and enforceable regulatory framework that would be oriented towards long-term development already in place. The research deals with problems arising out of recognising climate change and introducing climate change management in legislation in order to ensure its conformity with the needs of sustainable development. As a result of the research, the authors have arrived at the following: 1) The legislation governing climate change management is fragmented and incomplete. 2) Regulatory control mechanisms are not clear, liability for non-compliance and infringements is insufficient. 3) The involvement of society in the elaboration of the legal framework and compliance monitoring is insufficient.

Keywords: climate change, climate neutrality, climate policy, responsibility

- Dr. iur. Inga Kudeikina** is Assoc. Professor of Riga Stradiņš university and Expert of the Latvian Council of Science. Inga Kudeikina studies the perspective of the development of civil rights in the context of sustainable development of society and regularly publishes the results of her scientific activities.
- Dr. iur. Sandra Kaija** is Professor of Riga Stradiņš university and Expert of the Latvian Council of Science, and Judge of the Supreme Court of the Republic of Latvia. Sandra Kaija is a leading criminal procedure expert in Latvia who regularly publishes scientific research on current criminal procedure problems.

34. Embracing Industry 4.0: Navigating the Evolution of Entrepreneurship in Romania

Iolanda Petronela Grosu PhDc, Zhiang Xiaoliang PhDc, Edward Dinicu PhDc, Prof. Dr. Dan Popescu

ABSTRACT:

Entrepreneurship stands as one of the most lucrative professions, developing hand-in-hand with the Industrial Revolutions (IRs), showcasing a direct link between them. The initial three IRs introduced significant global shifts. The fourth revolution, known as Revolution 4.0 or Industry 4.0, marks an evolution, highlighting emerging interest areas and diverse concerns such as artificial intelligence, robotics, automation and the internet of things. Our study aimed to examine the viewpoint of Romanian entrepreneurs on IR 4.0, their adoption of new technology measures, and their impact. Furthermore, we sought to identify ways to boost local entrepreneurship in the R 4.0 era, based on data analysis. Noting the lack of investment in necessary technological infrastructure in Romania, our research began with a theoretical data analysis and review of relevant literature. We then examined responses from 1026 participants to a semi-structured questionnaire circulated via a crowdsourcing platform. Prior to conducting an econometric data analysis, we established three research hypotheses, which were subsequently confirmed. Our methodology involved analyzing quantitative data using descriptive statistical techniques, categorical principal component analysis (CATPCA), and correspondence analysis, processed using the IBM SPSS 20 software. A limitation of our study was the non-selective approach to participant recruitment for the questionnaire, allowing responses from individuals possibly lacking in-depth knowledge of the field, leading to intuitive rather than informed opinions. For future research, we plan to delve into domestic entrepreneurship by involving respondents from varied professional backgrounds with relevant expertise, to provide a foundation for a more comprehensive analysis. This approach aims to outline actionable strategies for the sustainable growth of Romanian entrepreneurship in the context of Industrial Revolution 4.0.

Keywords: entrepreneurship, industrial revolution, revolution 4.0, artificial intelligence, technology, investments, CATPCA

Iolanda Petronela Grosu is a PhD Student, in her first year at the Bucharest University of Economic Studies, Doctoral School of Management.

Zhiang Xiaoliang is a PhD Student, in his second year at the Bucharest University of Economic Studies, Doctoral School of Management.

Edward Dinicu is a PhD Student, in his first year at the Bucharest University of Economic Studies, Doctoral School of Management.

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.

35. Improving EU Fund Absorption in Romania: A Case Study on Beneficiary Insights

Assoc. Prof. Dr. Cristina State, Jianbo Wang PhDc, Edward Dinicu PhDc, Dr. Raluca-Elena Ghinea

ABSTRACT:

Financing remains a pivotal challenge for entrepreneurs, requiring the identification of sustainable and effective medium- to long-term solutions. This principle equally applies to the public sector, which relies on investments for the production of goods, service delivery, and infrastructure development. European grants are significant resources that can expedite the growth and efficiency of both public and private sectors. Nonetheless, the process of fund absorption is often extended, with Romania failing to fully utilize the sums allocated by the European Union. In light of these considerations, we initiated a study aimed at discovering strategies to enhance the utilization of non-reimbursable European funds. This research incorporated a questionnaire, disseminated via a crowdsourcing platform, which garnered responses from 575 participants. Subsequently, these responses were subjected to econometric analysis using IBM SPSS20 software, employing techniques such as quantitative data analysis, descriptive statistical methods, multiple response analysis, cross-tabulation, and the χ^2 test for independence. The study proposed five hypotheses for investigation. These were divided into three primary and two secondary hypotheses. The aim was to explore several areas: how potential beneficiaries perceive their interactions with relevant ministry officials, the process of absorbing funds, the challenges they face, and their opinions on how the EU distributes funds among member states.

Keywords: European funds, investments, project management, IBM SPSS20, organizational communication

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

Jianbo Wang is a PhD Student, in his second year at the Bucharest University of Economic Studies, Doctoral School of Management.

Edward Dinicu is a PhD Student, in his first year at the Bucharest University of Economic Studies, Doctoral School of Management.

Raluca-Elena Ghinea finished her PhD studies last year, at the Bucharest University of Economic Studies, Doctoral School of Management.

36. Scientific Mapping of Environmental, Social, and Governance (ESG) Research from Stakeholders' Perspective : A Content Analysis Study

Dr. Iwona Gorzeń-Mitka, Assoc. Prof. Dr. Joanna Błach, Dr. Małgorzata Lipowicz

ABSTRACT:

Purpose - The purpose of this study is to illustrate the thematic evolution and intellectual structure of environmental, social, and governance (ESG) research from the stakeholders' perspective through the scientific mapping of 251 articles published in last 5 years. **Methods** - This research methodology is based on different techniques, implemented through SciMat software: bibliometric techniques, scientific map analysis and content analysis of research documents from Scopus. This approach enables the authors to examine the intellectual structure of the ESG issues within the context of stakeholders' perspective and trace their evolution over time. **Results** - The study highlights the importance of 'stakeholder engagement' as a key area for potential future research. **Conclusions** - This study is a novel contribution to the literature being the first to use the SciMat tool to analyse ESG issues from a stakeholder perspective. This study demonstrates that a multifaceted view of stakeholder engagement in ESG activities, particularly in emerging markets, represents a potentially promising area for future research in this field. **Practical implications** - We identify specific themes related to stakeholder engagement on ESG issues such as green innovation, disclosure of sustainability targets, reputational risk. These themes highlight areas, where managers should be made more aware of the role of stakeholders. **Limitations** - The main limitations stem from the selection of the Scopus database and the SciMAT software and its parameters.

Keywords: ESG, stakeholders, co-word analysis, scientific mapping

Iwona Gorzeń-Mitka, Ph.D., is an Assistant Professor, Department of Corporate Finance and Insurance, Faculty of Finance, University of Economics in Katowice (Poland). Her research interests include risk in corporate decision-making, enterprise risk management (application of ERM to ESG risks), risk management standards and methodologies, risk in organisational culture. She is the author (co-author) of 3 books and more than 120 scientific papers. She is deputy editor-in-chief of the journal "Problems of Management in 21st Century". She is a member of scientific and professional associations, e.g. AOM, IRM Institute of Risk Management, Polish Economic Society, ERRN European Risk Research Network, The Global Association of Risk Professionals.

Joanna Błach, Post-Ph.D., is an Associate Professor of Finance and Head of the Department of Corporate Finance and Insurance, Faculty of Finance, University of Economics in Katowice (Poland). She is the director of the Finance and Accounting study programme (at Bachelor and Master level). Her research interests include corporate finance, sustainable finance, financial innovations, corporate governance and enterprise risk management. She is the author and editor of more than 100 book chapters and scholarly publications, in addition to several monographs and handbooks on financial management. Her teaching experience include finance-related courses for bachelor and master students, as well as post-graduate and doctoral programmes, both in Polish and English. Joanna Błach was invited as a visiting professor to several European universities e.g.: University of Verona, University of Split, University of Florence, Universidad CEU San Pablo in Madrid, Berlin School of Economics and Law, and Inholland University of Applied Sciences.

Małgorzata Lipowicz, Ph.D., is an Assistant Professor, Department of Corporate Finance and Insurance, Faculty of Finance, University of Economics in Katowice (Poland). Her research interests include

corporate finance, raising capital by enterprises, sustainable finance, corporate governance and green bonds and blue bonds. She is the author of more than 10 science publications. She is a member of scientific and professional associations, e.g. Polish Economic Society, Data Management Association (DAMA). Her teaching experience include finance-related courses for bachelor and master students. Małgorzata Lipowicz has many years of extensive banking experience in a financial corporation where she implemented projects in the field of IT and she managed project in the area of data.

37. A Synthesis of the Evolution of Corporate Value Research in Sustainable Development: A Big Data Analysis

Assoc. Prof. Dr. Joanna Błach, Dr. Iwona Gorzeń-Mitka

ABSTRACT:

Purpose - This paper aims to synthesize the extant literature on corporate value in the context of sustainable development over the past two decades. **Methods** - Bibliometric analysis was conducted using citation, keyword co-occurrence mapping, and productivity and impact indicators, with SciMAT software for visualizing research trends. Following PRISMA guidelines, the analysis covers 329 publications from the Scopus database from 2004 to 2023. **Results** - The findings show the evolution of corporate value research in the context of sustainable development, highlighting recent topics like sustainability reporting, corporate governance and innovation in sustainable business models. **Conclusions** - This study is among the first to use big data analytics in this area, identifying evolutionary changes, recent trends, and future research directions, serving as a reference for researchers. **Practical implications** - It identifies sectors and industries where awareness of the relationships between corporate value and sustainability should be raised among managers. **Limitations** - The main limitations stem from the selection of the Scopus database and the SciMAT software and its parameters.

Keywords: corporate value, sustainable development, literature review, bibliometric analysis

Joanna Błach, Post-Ph.D., is an Associate Professor of Finance and Head of the Department of Corporate Finance and Insurance, Faculty of Finance, University of Economics in Katowice (Poland). She is the director of the Finance and Accounting study programme (at Bachelor and Master level). Her research interests include corporate finance, sustainable finance, financial innovations, corporate governance and enterprise risk management. She is the author and editor of more than 100 book chapters and scholarly publications, in addition to several monographs and handbooks on financial management. Her teaching experience includes finance-related courses for bachelor and master students, as well as post-graduate and doctoral programmes, both in Polish and English. Joanna Błach was invited as a visiting professor to several European universities e.g.: University of Verona, University of Split, University of Florence, Universidad CEU San Pablo in Madrid, Berlin School of Economics and Law, and Inholland University of Applied Sciences.

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38. Sustainable Financing of Metropolis GZM Activities Using Green Bonds

Dr. Małgorzata Lipowicz,

ABSTRACT:

Purpose – This paper aims to identify factors why local authorities are interested in bonds. The first and largest metropolis (Metropolis GZM) in Poland was subjected to the study.

Methods – Analysis of market data and local government reports. Survey study more than 20 questions -Local government authorities – identification of reasons encouraging and discouraging the issue of green and blue bonds. **Results** – The hypotheses were confirmed:

(1) The use of bonds by the Metropolis local government units has a significant impact on the financing of investments through green bonds and blue bonds. (2) Pro-social activities of the Metropolis local government units will significantly influence the financing of investments through green bonds and blue bonds. **Conclusions** – The Green Bond Principles are available and can be implemented on the grounds of Metropolis GZM and green bonds (GB) should be used by local government units (LGU). **Practical implications** – Local government units can take advantage of the study and take advantage of the positive aspects resulting from raising capital through municipal bonds.

Keywords: green bond, sustainable finance, local government unit, bond issue, survey study,

Małgorzata Lipowicz, Ph.D., is an Assistant Professor, Department of Corporate Finance and Insurance, Faculty of Finance, University of Economics in Katowice (Poland). Her research interests include corporate finance, raising capital by enterprises, sustainable finance, corporate governance and green bonds and blue bonds. She is the author of more than 10 science publications. She is a member of scientific and professional associations, e.g. Polish Economic Society, Data Management Association (DAMA). Her teaching experience include finance-related courses for bachelor and master students. Małgorzata Lipowicz has many years of extensive banking experience in a financial corporation where she implemented projects in the field of IT and she managed project in the area of data.

39. Socioeconomic and Climate Change Impacts on Water, Energy, and Food Resources

Jack Lodge, Dr. Andrew Dansie, Assoc. Prof. Dr. Nguyen Mai Dang,
Assoc. Prof. Dr. Fiona Johnson

ABSTRACT:

The Water-Energy-Food Nexus is a widely recognized approach for holistic transboundary water management, but the resilience of the approach against the combined pressures of socioeconomic growth and climate change have not been comprehensively assessed. Here, a physical availability model was used to understand the impacts of these pressures under the global SSP scenarios using a basin in Southeast Asia as a case study. The results indicate that overall basin water use will likely decline within most socioeconomic pathways due to changes in efficiency, resulting in an overall decrease in water stress. Climate change on the other hand will cause increased water stress, especially during the dry season due to changing streamflow and this will have large cascading impacts to hydropower generation. Transboundary cooperation scenarios have the opportunity to change this outcome; whilst climate change will reduce hydropower outputs, these changes could be mitigated by sharing excess resources in transboundary basins. Considering both socioeconomics and climate together is critical for understanding future sustainable development, water scenarios, and the corresponding impacts on energy and food security.

Keywords: SSPs, climate, water, energy, food, transboundary

Jack Lodge, UNSW Sydney, Australia researches the Water-Energy-Food Nexus approach to transboundary agreements, assessing and detailing the interactions between the water, energy, and food sectors. His research assists in understanding how transboundary cooperation can achieve resource security and Sustainable Development Goals related to water, energy, and food under climate change and various socioeconomic scenarios. His primary research interests include transboundary water management, the Water-Energy-Food Nexus, humanitarian engineering, and hydrology.

De. Andrew Dansie, UNSW Sydney is a Senior Lecturer and Academic Lead, Humanitarian Engineering at UNSW specialising in large-scale environmental systems and international development to meet environmental and social SDGs. He has 18 years of experience in the water and development sector spanning the private sector, the United Nations, universities and an NGO. He is currently a Senior Lecturer at the University of New South Wales (UNSW) specialising in water resources, water access, air pollution, and the biogeochemistry of dust.

Dr Nguyen Mai Dang, Thuyloi University is Associate Professor and Director of the School of International Education, Thuyloi University, Viet Nam. He specializes in hydrology and water resources, modeling, disaster risk assessment, climate change, and water security. He has authored 60 journal and conference articles, books and book chapters; as team leader and participated in 50 international and national projects. He is member of several academic and professional societies: Asia Pacific Association of Hydrology and Water Resources (APHW); Vietnam National Committee on Large Dams and Water Resources Development (VNCOLD); Vietnam Water Resources Development Association (VIWARD); Thuyloi University alumni association (TLU); Asian Institute of Technology Alumni Association (AITAA); and Vietnam-Netherlands Friendship and Cooperation Association (VNFC). Currently, he is researching flow forecasting and reservoir operation; climate change downscaling and impacts; water security assessment; and AI applications for river basin management.

Associate Professor Fiona Johnson, UNSW Sydney, is the Director of the Water Research Centre at UNSW and is an academic in the School of Civil and Environmental Engineering. She has over 20 years'

experience in hydrology working as a consultant, for government and in academia. Fiona's areas of research and teaching focus on statistical hydrology, particularly with respect to flooding and extreme events and the use of global climate models for climate change assessments of water resources systems. She has a particular interest in solutions to climate and hydrological challenges faced by communities in the Global South.

40. Artificial Intelligence, Human Rights, and Sustainable Development: An African Perspective

Prof. John C Mubangizi

ABSTRACT:

Artificial intelligence (AI) has become a global force that is transforming many facets of human life. As AI technologies are being incorporated into a wider range of societal domains, including healthcare, finance, education, and transportation, etc, their implications for human rights and sustainable development have attracted increasing attention worldwide. However, the discourse often reflects predominantly Western perspectives, neglecting the diverse socio-economic and cultural contexts of regions such as Africa. This paper endeavours to fill this gap by examining the intersection of AI, human rights, and sustainable development from an African perspective. This paper explores the opportunities and challenges posed by AI technologies in Africa. It investigates how AI can be harnessed to advance human rights objectives, such as access to education, healthcare, and justice, while also addressing pressing sustainable development goals. Additionally, it critically examines the potential risks of AI exacerbating existing inequalities, infringing on privacy rights, and perpetuating digital colonialism. The paper investigates the unique challenges that Africa faces in harnessing AI for human rights and sustainable development, including infrastructure limitations, data privacy concerns, and regulatory gaps. It highlights the importance of context-specific approaches that consider Africa's socio-cultural diversity and prioritize local knowledge systems and community participation. Through case studies of a few African countries, this paper provides insights into practical strategies for leveraging AI to promote human rights and sustainable development in Africa. It emphasizes the need for inclusive policymaking processes that involve diverse stakeholders, including civil society organizations, marginalized communities, and indigenous groups. This paper contributes to the evolving discourse on AI governance by focusing on African perspectives and experiences. By critically examining the opportunities and challenges, it seeks to inform policymakers, practitioners, and scholars on how AI can be ethically deployed to advance human rights and sustainable development goals on the African continent.

Keywords: Artificial intelligence, human rights, sustainable development, Africa, sustainable development goals.

John C Mubangizi is a Professor in the Free State Centre for Human Rights at the University of the Free State (UFS) in South Africa. He was the Dean of the Faculty of Law at the UFS from 2018 to 2023. Before that he was a Deputy Vice-Chancellor at the University of KwaZulu-Natal for ten years. He holds a Bachelor of Laws (LLB), a Master's in Public Law (LLM) and a Doctorate in Law (LLD). He is the author of the book entitled *The Protection of Human Rights in South Africa: A Legal and Practical Guide* (Juta & Company: 2004 and 2013) and has published numerous peer-reviewed journal articles on human rights. He has also presented papers at several national and international conferences. Professor Mubangizi is a Member of the Academy of Science of South Africa (ASSAf) and served as Advisor and Member of the ASSAf Council (2012 - 2015). He also served as Chair of the Higher Education Quality Committee (HEQC) and a Member of the Council on Higher Education (CHE) of South Africa (2015 - 2018).

41. Factors Influencing the Adoption and Usage of Smart Charging Among Electric Vehicle Drivers in Norway

Junianna Zatsarnaja, Katharina Reiter, Assoc. Prof. Dr. Alim Nayum, Milad Mehdizadeh, Prof. Dr. Trond Nordfjærn

ABSTRACT:

Smart charging has a great potential to balance power system, while ensuring integration of renewable energies. With growing adoption of electric vehicles (EVs) and uncontrolled EV charging, more regular demand peaks increase the impact on the local grid. In our study, we investigate the factors that explain smart charging use, focusing on the daily EV charging routine, overall charging experience, and psychological variables. Our study contributes by measuring revealed smart charging behavior rather than preferences. We surveyed over 1,000 EV drivers in Norway, a country where market-based smart charging systems are wide-spread. We employed a binary logit model to test what factors influence the use of smart charging. We found that the higher the State of Charge (SOC) at charging start and the lower the battery level at charging end, the likelier it is to be a smart charging user. Additionally, EV drivers with less EV experience, lower range stress for unplanned trips, higher awareness about own energy usage, technological openness, less control belief over charging, and lower perceived ease of charging, are also likelier to use smart charging. By understanding user's perspective, stakeholders can develop effective smart charging solutions, ultimately promoting their widespread adoption while ensuring sustainability of electric mobility.

Keywords: Electric Mobility, Smart Charging, Charging Behavior, Sustainable Charging, Grid-friendliness, Traffic Psychology

Ms. Junianna Zatsarnaja is a visiting researcher at the Chair of Corporate Management, Technical University of Munich (TUM) and a member of the Research Group on Transportation at the Department of Psychology, Norwegian University of Science and Technology (NTNU). Her research focus is on studying charging behavior of electric vehicle drivers, personalization and enhancement of their charging experience, as well as incentivization and nudging towards more sustainable charging behavior. After completing her Master of Science in Management and Technology at TUM in 2023, she has been pursuing her doctoral degree in cooperation with the BMW Group in the department of technical product development for energy, sustainability and urban mobility.

Mrs. Katharina Reiter is a visiting researcher at the Chair of Corporate Management at TUM. Her research focus is on artificial intelligence and the impact of its usage on employee performance, motivation and inventiveness as well as on smart charging behavior and the factors influencing its usage. She has been pursuing her doctoral degree at TUM and is a member of various research groups at the BMW Group in context of her employment.

PhD, Associate Professor Alim Nayum works at the Faculty of Psychology, University of Bergen, Norway. His areas of interest are determinants of the individual's experiences and behavior in the social and structural context, and modelling of relevant behavioral decisions. In particular, research that focuses on the intersection of climate and energy transition, digital transformation in the transport sector, and sustainable social development and innovation has been his main area of interest.

Milad Mehdizadeh has backgrounds in civil engineering (transportation engineering) and environmental psychology (traffic psychology). He is currently employed at the Norwegian University of Science and Technology (NTNU) taking his second PhD. Milad earned his first PhD in Civil Engineering (Transport Eng and Planning). Milad's research focuses on travel behavior modeling, traffic psychology, and how mobility interacts with health, environmental, energy, and safety issues using theory-driven and data-driven approaches.

Dr.philos & PhD, Prof. Trond Nordfjærn is employed at the Norwegian University of Science and Technology (NTNU), Department of Psychology. He also holds a 20% position as senior researcher at the St. Olavs University hospital in Trondheim, Norway. He is head of the Research Group on Transportation at NTNU, Department of Psychology. His research focus is on psychological factors predicting sustainable transportation mode use, and risk-taking behaviour in traffic settings. He also has a substantial research portfolio related to addictive behaviours.

42. The Lifestyle of Indigenous People from the Perspective of Sustainability: The example of Aeta Communities in the Philippines

Prof. Dr. K.-Ulrike Nennstiel

ABSTRACT:

Since sustainability and climate crises have become topics of worldwide concern, at times the lifestyle of self-sufficient indigenous peoples (IP) has attracted attention and been taken into consideration as a model of sustainable living. Questioning to what extent this might work and what factors might limit it we visited a community of self-sufficient Aeta peoples in the Philippines carrying out expert interviews in- and outside the community. What turned out most threatening/ damaging to their sustainable way of living are efforts to involve them into the market system aimed at “supporting their development” with reference to the SDGs and discourses of human rights’. Certainly, this should not suggest IPs continuing to live as the world’s poorest but rather admonish us to reconsider our standards of “poor” and “rich” and pursue the aim of giving all people the chance to live a “rich life” in a more comprehensive sense.

Keywords: Indigenous Peoples, self-sufficient, poor-rich, SDGs, human rights, market system

Dr. K.-Ulrike Nennstiel is Professor of Sociology at the Dpt. of Social Welfare/ Social Policy at Hokusei Gakuen University in Sapporo, Japan. She has been doing research on social movements, minorities, the mutual influence between humans and nature. Recently her focus has been on indigenous peoples, particularly on Pacific islands in the northern hemisphere, their present conditions, the activities and intentions of social workers working with them, and on the colonial history changing and re-shaping their life fundamentally.

43. Using Sensemaking Framework, Explore the Effectiveness and Impact of Organizational SDGs Training through Board Games.

Kuei Fen Chang PhDc

ABSTRACT:

It's never easy for an organization to adopt a new policy or regulation from the government or even the United Nations. In particular, the SDGs or ESG are not on the radar or in the minds of employees, but the SDGs or ESG can't be achieved without their involvement and collective action. They need more dialogue and communication to create a new mindset before they act differently and change the world they want. This study is based on a hotel chain group trying to raise awareness of the SDGs among its employees in all departments. Through a board game workshop, engage employees and share common goals and values for further implementation of the SDGs and ESG. There were four workshops conducted in four different hotels with 149 participants. During the game, each person is asked to reconstruct their understanding of the world and their perspective through observation, reflection, and interaction, as well as reconstruct their perspective on the SDGs, thus creating new understandings and empowering action. This study applies the sensemaking process to explain the transformation process and the different perceptions after the game workshop.

Keywords: SDGs, ESG, sensemaking, transformation, change, sustainability,

Ms. Kuei Fen Chang is PhD student in the Department of Education and Human Potentials Development at National Dong Hwa University. She is also the Deputy Executive Director of the CP Yen Foundation, which aims to promote Dialogue for positive change.

44. Integrating Blue-Green Infrastructure strategies to enhance climate resilience in Colombia.

Laura Medina Rivera, Assoc. Prof. Robert Faggian

ABSTRACT:

Colombia is a tropical developing country that faces frequent and unpredictable flood events. Previous efforts to mitigate the impacts of flood have revolved around traditional approaches like the construction of levees. However, as we have seen in other parts of the world, levees often make flooding worse. Consequently, there is a pressing need for more effective strategies to mitigate the impacts of extreme weather events, particularly with respect to preparedness. However, poor data availability makes understanding flood risk and developing new approaches a difficult task. This research focuses on the Guarapas River and Pitalito town, in regional Colombia. It explores the use of Blue-Green Infrastructure (BGI) as a nature-based methodological approach to deal with flooding, in the context where. Utilizing PCSWMM as a modelling tool, the study demonstrates the applicability of BGI in reducing peak flow. Calibrating the model proved difficult given the substantial gaps in official data sources. So, it was necessary to use proxies such as social media posts of flood events, to determine the date and severity of flood events in the town. The analysis reveals that deploying a limited number of BGI elements can mitigate the adverse effects of floods in a cost-effective manner, and that the underpinning modelling could be carried out using data proxies such as local news reports and social media posts. This research contributes to the growing knowledge on BGI as a valuable solution for flood management in a changing climate but does so in a developing country context. By showcasing the feasibility of BGI in reducing peak flow and enhancing resilience in a region with limited data resources, this study underscores the significance of proactive measures in addressing the challenges posed by climate change, and its implications for policymakers and stakeholders involved in sustainable planning. The manuscript aligns well with the conference's aims, underscoring environmental sustainability as a tool for urban and regional water planning, and evaluating a different approach on linking climate change and disaster risk reduction.

Keywords: Blue-Green Infrastructure, Climate change, Sustainable development, Developing countries, water management.

Laura Medina Rivera is an experienced and dedicated educator with over 8 years of teaching and lecturing experience. Her areas of expertise span across the fields of science, including chemistry and biology, as well as environmental science. Throughout her career, she has developed three research projects, with her latest work being part of her ongoing PhD course at Deakin University. In her current doctoral research, she is exploring the application of Blue-Green Infrastructure (BGI) as a framework for enhancing climate change resilience and promoting sustainable development in a developing country, such as Colombia. By leveraging her interdisciplinary knowledge and expertise, she aims to contribute to the growing body of research on innovative, nature-based solutions to address the pressing challenges posed by climate change. Her passion for bridging the gap between scientific knowledge and practical, real-world applications drives her work. She is committed to sharing her insights and findings with policymakers, practitioners, and the broader academic community, in the pursuit of fostering more sustainable and resilient communities.

Robert Faggian As a seasoned research scientist at Deakin University's Centre for Regional and Rural Futures, he brings a wealth of expertise in developing solutions to the global challenges of climate

change and sustainability. With skills in project design and management, data analysis, research tool development, and team leadership, he models the impacts of climate change to inform strategic planning and regional development efforts. He is proud to bring an international perspective to his work, having developed and implemented industry-connected projects in many parts of Australia, South America, Asia, and Europe. As the lead of Deakin's Sustainable Regional Development Master's program, he has the privilege of mentoring and supervising PhD and Master's students in their research pursuits. His areas of interest include climate change impacts and adaptation, integrated water management, sustainable agriculture, systems thinking, and sustainable regional development.

45. Sustainable Moral Development

Dr. Lawrence Whitmore

ABSTRACT:

In this paper, the condition of the environment is discussed with the use of a wide range of statistical data taken from existing literature and online databases. The data show the continuing decline of species counts, populations and forest area, while at the same time resource extraction and pollution are continuing to increase. Based on this data, increasing human population combined with expansion of the resource-hungry consumer-based western lifestyle, is unsustainable and further decline will inevitably result in increased scarcity of resources essential for the sustenance of human life and the maintenance of civilisational infrastructures. It is argued that the root cause of environmental decline is the moral condition of mankind. The desire for excess and luxury, the callous use of technology to overexploit the land and seas for profit, the lack of responsiveness in addressing threats to the environment, and the tendency to make war are all unsustainable. If we want to survive and retain civilised life, then our moral condition needs to improve. The impact of human morality upon the environment is examined through the classical framework of the Divine Comedy by Dante Alighieri. The seven classical vices are identified as driving man's destruction of the environment, while the seven classical virtues are identified as ways of living in balance and harmony with the environment. By embracing these virtues, humanity can thrive as one species sharing the biosphere with other species and securing a sustainable future.

Keywords: Sustainable development; human development; technology; morality; ethics.

Dr. Lawrence Whitmore has a degree in Pure Physics and a PhD in material characterization and crystallography. He has worked in a range of academic and industrial positions. He has been recently finished a three-year FWF-funded international project at the University of Salzburg as project leader investigating the microstructure of magnesium and developing a range of sustainable tools and new methods for sustainability in science.

46. Systems Thinking as a Catalyst for Climate-Cognisant Sustainable Land Use Planning: Insights from Regional Victoria, Australia

Lelanga Dissanayake PhDc, Assoc. Prof. Robert Faggian

ABSTRACT:

Amidst escalating challenges posed by climate change, effective land use planning and decision-making are indispensable for nurturing resilient and sustainable landscapes. Land use decision-makers often grapple with the challenge of foreseeing and mitigating unintended consequences due to the intricate dynamics of the system, compounded by fragmented information and divergent stakeholder perspectives. To address these challenges, this research integrates science, stakeholder engagement, and systems thinking to navigate the complexities of land use planning in response to climate change. The research tailors a decision-making framework for climate-cognisant sustainable land use planning, incorporating principles of systems thinking (soft system methodologies) to address inherent complexities. At its core, the framework utilizes validated expert system models to assess climate change impacts on agricultural land use. Through collaborative engagement with end users, the framework is refined to address specific challenges and opportunities within the regional context. The framework is developed in conjunction with end users within a case study in Victoria, Australia, and then generalized to a broader applicability in a range of contexts. The output is a practical systemic-intervention-driven process that facilitates better regional planning decisions under the complexity of evolving climate change.

Keywords: Climate Change, Land Use Planning, Systems Thinking, Decision Making, Sustainable Development

Mrs. Lelanga Dissanayake is currently a Doctoral Candidate at Deakin University, Australia, with her research concentrated on the intersection of climate change and land use, viewed through the lens of systems thinking. Originated from Sri Lanka and influenced by her experiences in a developing country, Lelanga is deeply committed to making a positive impact globally. For her, systems thinking is essential, enabling a deep dive into the complex relationships within Earth's ecosystems. This method goes beyond mere cause-and-effect, uncovering how minor changes in one area can lead to significant impacts worldwide. This complex network of interactions is what captivates Lelanga, driving her to blend scientific research with actionable strategies for sustainable land use planning.

Associate Professor Robert Faggian works at the Centre for Regional and Rural Futures, Deakin University. The focus of his research is climate change adaptation in agricultural and regional systems. He also leads a Masters program in Sustainable Regional Development.

47. CO₂ Capture via Adsorption Using Silica Gel

Dr. Leticia Pérez-Rial, Dr. Víctor Alfonsín, Dr. Rocío Maceiras, Dr. Javier Vallejo, Dr. Jorge Feijoo

ABSTRACT:

This paper investigates the potential of silica gel as an effective adsorbent for CO₂ capture. The study explores the adsorption mechanisms, the efficiency of CO₂ uptake, and some factors influencing the adsorption capacity of silica gel. Experimental results indicate that silica gel demonstrates significant potential for CO₂ adsorption under various conditions. The adsorption capacity was found to be highly dependent on parameters such as gas flow rate and the size of silica gel. The findings suggest that with optimized conditions, silica gel could be a viable material for reducing atmospheric CO₂ levels. This research contributes to the development of sustainable and efficient technologies for mitigating climate change through carbon dioxide capture and storage.

Keywords: CO₂ capture, adsorption, efficiency, silica gel

Leticia Pérez-Rial. Her research mainly focuses on the following lines: i) production of solid, liquid, and gaseous biofuels; ii) valorization of organic waste; iii) thermochemical valorization of biomass: combustion, microgeneration; and iv) microalgae: cultivation, separation of algal biomass, water treatment. She has published 15 articles in JCR journals, 2 books, 1 book chapter, 1 patent, and more than 14 communications in scientific conferences, achieving an h-index of 9.

Víctor Alfonsín. His research career is developed in the following lines: i) renewable energies: hydrogen, photovoltaic, wind; ii) energy storage systems: batteries and metal hydrides; iii) simulation of terrestrial and marine energy systems; and iv) biofuels. He has published 21 articles in JCR journals and more than 10 communications in scientific conferences, achieving an h-index of 7. He has one six-year research period currently active.

Rocío Maceiras. Her research primarily focuses on the field of renewable energy (biofuels, hydrogen), CO₂ capture, and the utilization of various types of waste for energy purposes. She has published 45 articles in JCR journals and more than 150 communications in scientific conferences, achieving an h-index of 21. She has three six-year research periods, one of which is currently active.

Javier Vallejo. His research mainly focuses on the following lines: i) Heat transfer. Conduction, convection and radiation; ii) Physics of the liquid state. Thermophysical properties and rheology; iii) Design and characterization of heat transfer fluids. Nanofluids; iv) Renewable energy. Geothermal, aerothermal and solar energy; and v) Thermal engineering. Heat exchangers. Heating and cooling systems. As a result of his research activity, he has published 34 articles in JCR journals, and more than 20 communications in scientific conferences, achieving an h-index of 16. He has one six-year research period currently active.

Jorge Feijoo. His research mainly focuses on the following lines: i) synthesis of nanoparticles through various routes (sol-gel, mechanical, electrochemical, etc.); ii) intervention and improvement of construction materials; iii) use of non-destructive techniques for analyzing porous structures; and iv) environmental engineering. As a result of his research activity, he has published 29 articles in JCR journals, 1 book, 3 patents, and more than 25 communications in scientific conferences, achieving an h-index of 9. He has one six-year research period currently active.

48. Towards Environmental Sustainability: Integrating RS and GIS for Ecology Assessment

Prof. Mahesh Kumar Jat, Saurabh Singh PhDc, Prof. Sudhir Kumar

ABSTRACT:

The environment provides numerous benefits for human well-being in terms of ecosystem services. These services directly and indirectly depend on the physical state of the ecosystem. However, the overexploitation of available natural resources for fulfilling the increasing demand for food, fuel, and shelter is leading to degradation in the ecological health of an area. Therefore, monitoring and assessment of spatial and temporal changes in the ecology of an area in terms of important ecological services is very critical and would help the decision-makers to develop or plan appropriate adaptation and mitigation measures for the conservation of natural ecosystems at various scales to ensure environmental sustainability. The present study focuses on assessing the ecological status of the Mahi Bajaj Sagar catchment area in Rajasthan (India) from the year 2000 to 2020, employing remote sensing-based indices. Important ecological status indicators such as greenness, dryness index, and heat index have been selected as per the pressure-state-response (PSR) framework. Multi-spectral remote sensing data and image processing techniques have been used to estimate these indicators and a remote sensing-based Ecological Status Index (RSBI) has been generated by their integration using the principal component analysis (PCA) to estimate; Results indicate a consistent decline in the overall ecological status of the Mahi Bajaj catchment where forest areas experienced the most pronounced decline in ecological health. Interestingly, approximately 43.6% of the area displayed resilience to changes in ecological status however, 36.4% of the area exhibited signs of ecological degradation. Our study underscores the efficacy of a remote sensing-based approach in quantifying and detecting ecological changes, offering a promising methodology for monitoring and assessment of ecological health of large areas which can help in promoting environmental sustainability.

Keywords: Environmental Sustainability, Ecological Status, RSBI, Remote Sensing, PSR Framework, PCA

Prof. Mahesh Kumar Jat is Professor at Department of Civil Engineering at Malaviya National Institute of Technology Jaipur (India) and having more than 25 years of teaching and research. Prof. Jat is a professor of water and environmental engineering and have expertise expert in spatial predictive modelling, land use/ land cover change modelling & predictions, climate change and its implication on water and environment, and hazard and risk assessments. He is doing research in the area of land use land cover change modelling and its implication on hydrology, climate and ecology. His research involves in combining spatial modeling with statistical and other techniques for predicting hydrological behavior of catchments, assessment of catchment health, ecological status assessment, and vector borne disease clustering. His work bridges multiple disciplines involving spatial intelligence, remote sensing, data science, and environmental change. Prof. Jat is credited with over 100 refereed publications and having extensive research and consultancy experience.

Mr. Saurabh Singh is a doctoral student at Department of Civil Engineering, MNIT Jaipur (India). His research work includes geospatial techniques and their application in the field of water resources and environmental sustainability.

Professor Sudhir Kumar is a professor of Environmental engineering at department of civil engineering, MNIT Jaipur (India). He is teaching and doing research in the area of sustainability, water treatment

technologies and pollution. He is credited with many research publication and extensive experience of research supervision.

49. Accessibility of Service Premises in Historic Areas for People with Disabilities in Lublin, Poland

Eng. Damian Hołownia, Eng. Małgorzata Kozak

ABSTRACT:

Agenda 2030 and its Sustainable Development Goals apply to all individuals, including those with disabilities. Currently, newly designed spaces and buildings in Poland meet accessibility requirements for people with disabilities. However, the situation differs in historical city centres and historic buildings. The aim of this study is to investigate the accessibility of service premises located in historic areas for people with mobility disabilities. The UN Convention on the Rights of Persons with Disabilities identifies barriers as a key factor limiting the full participation of these individuals in social life, serving as the starting point for the conducted research. The city of Lublin was selected as a case study. Methods included conducting an analysis of the accessibility of service premises in terms of architectural barriers. Results were illustrated with photographs and expressed in percentages. The findings indicate that individuals with disabilities encounter significant difficulties in using the majority of gastronomic premises. Furthermore, the presence of numerous barriers in the historical city centers was noted, which hinders access for disabled tourists.

Keywords: accessibility, mobility disabilities, service premises, historic centre

Mr. Eng. Damian Hołownia is a research and teaching assistant at the Faculty of Civil Engineering and Architecture at the Lublin University of Technology. Professionally, he specializes in architectural design, encompassing interior design as well. His research focuses on architecture and urban planning within the realm of contemporary residential construction and modernist architecture. Particularly within the scope of sustainable development, his expertise lies in universal design, catering to individuals with diverse disabilities and ensuring accessibility in both indoor and outdoor spaces.

Ms. Eng. Małgorzata Kozak is a research and teaching assistant at the Faculty of Civil Engineering and Architecture at the Lublin University of Technology. She completed postgraduate studies in climate change at the Warsaw School of Economics. Her research focuses on architecture and urban planning in the context of sustainable development, particularly regarding rainwater management and urban planning and society. She conducts computer simulations related to the perception of temperature in urban spaces. She has been involved in the development of adaptation plans for public spaces to climate change in Lublin.

50. Thermal Comfort in a Contemporary Housing Estate: A Case Study from Lublin, Poland

Eng. Małgorzata Kozak, Eng. Damian Hołownia

ABSTRACT:

Focusing on urban climate and its impact on residents' thermal comfort is crucial in sustainable urban planning and architectural design. This study aims to investigate residents' temperature perception in a contemporary housing estate in Lublin, Poland during peak heat, using advanced simulation capabilities of the ENVI-met programme. The selected case study comprises a modern, densely built housing estate with limited greenery. Calibration of the estate model within the software utilised publicly available meteorological and spatial data. Simulations conducted for Lublin's hottest day on 22 July 2022 facilitated the calculation of the Universal Thermal Climate Index (UTCI) using the BIO-met tool. Findings reveal that residents experience moderate thermal stress in areas directly exposed to sunlight at 4:00 pm, escalating to strong or very strong heat stress in sun-exposed areas throughout the day. This study underscores the utility of computer simulations in evaluating urban microclimates, aiming to enhance urban comfort and environmental sustainability.

Keywords: urban climate, thermal comfort, sustainable urban planning, ENVI-met

Ms. Eng. Małgorzata Kozak is a research and teaching assistant at the Faculty of Civil Engineering and Architecture at the Lublin University of Technology. She completed postgraduate studies in climate change at the Warsaw School of Economics. Her research focuses on architecture and urban planning in the context of sustainable development, particularly regarding rainwater management and urban planning and society. She conducts computer simulations related to the perception of temperature in urban spaces. She has been involved in the development of adaptation plans for public spaces to climate change in Lublin.

Mr. Eng. Damian Hołownia is a research and teaching assistant at the Faculty of Civil Engineering and Architecture at the Lublin University of Technology. Professionally, he specializes in architectural design, encompassing interior design as well. His research focuses on architecture and urban planning within the realm of contemporary residential construction and modernist architecture. Particularly within the scope of sustainable development, his expertise lies in universal design, catering to individuals with diverse disabilities and ensuring accessibility in both indoor and outdoor spaces.

51. Is Quick Delivery Related To Quick-Commerce Environmentally Sustainable?

Manas Sarkar

ABSTRACT:

The rapid expansion of quick-commerce (q-commerce) business with its promise of quick last-mile delivery requires an urgent assessment of its environmental sustainability. This study investigates the sustainability of the q-commerce business model, which relies heavily on electric vehicles (EVs) and dark stores for last-mile delivery services, and assesses the environmental impact of express-delivery operations, particularly in terms of greenhouse gas (GHG) emissions. It examines the ability of dark stores and EVs to reduce carbon footprints compared to traditional online last-mile delivery models, and evaluates the environmental cost potential of increased delivery frequency and faster last-mile delivery on GHG emissions. By analyzing data from various q-commerce companies and logistics strategies, the paper provides insight into the trade-off between the benefits of quick delivery and its environmental consequences. The results highlight the complexities of achieving sustainability in the rapid last-mile delivery sector by combustion vehicles and propose a framework for integrating environmentally friendly practices to reduce overall environmental impact, such as optimizing EV adoption and delivery routes. The conclusion of the paper discusses the feasibility and significance of establishing a more sustainable q-commerce environment, as well as its limits and future prospects.

Keywords: Quick-delivery, Sustainable environment, Dark-stores, Greenhouse-Gas, Electric-Vehicles, Last-mile delivery.

Mr. Manas Sarkar is a Ph.D. research student, at Åbo Akademi University, Department of Social Science, Business, and Economics, Turku, Finland.

52. High-temperature Heat Pump Application in the Ceramic Sector: a Case Study

Assoc. Prof. Dr. Marco Pellegrini, Dr. Alessandro Guzzini, Prof. Dr. Cesare Saccani

ABSTRACT:

The decarbonisation of hard-to-abate sectors, particularly energy-intensive industries, represents one of the most technologically challenging objectives of EU 2050 targets and requires economic assessments involving private investments and public support actions in the form of incentives and tariffs. The ceramic industry represents one of the industrial sectors with the highest added value for Europe, particularly Italy. On the other hand, the transformation processes of the raw material and subsequent manufacturing of ceramic tiles require temperatures above 100°C, for which the availability of competitive technological solutions compared to the combustion processes of fossil fuels remains limited. In recent years, the development of high-temperature heat pumps (HTHP), i.e. for heat sink temperatures above 100°C, has notably increased. Nonetheless, doubts remain regarding the possibility of effectively integrating HTHPs into industrial processes from both a technical and economic point of view. The article describes the possible waste heat sources available in the ceramic process, and it identifies which HTHP solutions are technologically feasible, including also an economic and environmental impact assessment.

Keywords: High-temperature heat pump, ceramic industry, hard-to-abate, energy-intensive industry, decarbonization.

Prof. Marco Pellegrini, PhD, is an Associate Professor at the University of Bologna, Forlì campus. Since 2007, he has collaborated with the Department of Industrial Engineering as a research fellow and with collaboration contracts. From January 2017 to March 2024, he served as Assistant Professor in the same department. He carries out his research in industrial mechanical plant engineering (ING-IND/17). The research interests are energy production plants, plants with multiphase flows, plants for the treatment, recovery and energy valorisation of waste, health and safety in the workplace, and industrial logistics. He has participated in several EU, national, and regional projects and is the author of more than 120 papers published in peer-reviewed journals and internationally recognised conferences.

Dr. Alessandro Guzzini, PhD, is an Assistant Professor (junior) at the University of Bologna. After completing his PhD in "Mechanics and Advanced Engineering Sciences" in 2018, he joined the Department of Industrial Engineering as research fellow, working on EU projects LIFE MARINAPLAN PLUS and SuperP2G, and the regional project E-CO2. Starting from 2023, he is serving as Assistant Professor in the same department. He carries out his research in industrial mechanical plant engineering (ING-IND/17). The research interests are mainly related with hydrogen use, including health and safety and regulatory concerns. He has participated in several EU, national, and regional projects and is the author of more than 40 papers published in peer-reviewed journals and internationally recognised conferences.

Prof. Cesare Saccani is a Full Professor at the Department of Industrial Engineering, University of Bologna. Appointed Researcher in the scientific sector of Industrial Mechanical Plants (ING-IND/17) in 1983, he has been internationally recognised in multi-phase flow engineering. He has been and still is a coordinator or participant in several EU, national and regional projects dealing with multiple topics related to industrial mechanical plant fields (i.e. pneumatic conveying, fluidised bed design and simulation, energy, waste management, health and safety at work). He is the author of about 200

papers published in peer-reviewed journals and internationally recognised conferences, and he is the inventor of 7 patents.

53. How to Transfer the Sustainability Competences through Green Pedagogies and Service-learning

Assoc. Prof. Dr. María J. Cantalejo Díez

ABSTRACT:

Sustainability competences are reflected in the "forward-looking capacity" to change and shape the future of the societies in which they live through active participation in the sense of sustainable development. Through service-learning, students take responsibility for their actions. The complex nature of sustainability issues makes it useful to explore problems and their solutions holistically. In the framework of the NEMOS project (A New Educational Model for Acquiring Sustainability Competences through Service-Learning), a collaborative process was initiated to pool the knowledge and experience of five Higher Education Institutions working together to implement new educational models for effectively acquiring sustainability competences through service-learning in food-related degrees. This EU-funded project was launched and aims to advance the transition to sustainability education through practical and innovative educational approaches and interventions. Green pedagogy can support transformative learning through the exploration and clarification of learners' own values. In the case of the Public University of Navarre (UPNA), which leads the NEMOS project, ten practical sessions were held to train university lecturers who teach in different degrees to effectively integrate sustainability in higher education, recognising the relevance of the connection with the environment and the active participation of educators in this process.

Keywords: Experiential learning, know-how, sustainability education.

Dr. María-J. Cantalejo is Associate Professor at the Department of Agronomy, Biotechnology & Food at the Public University of Navarre (UPNA), in Spain. Her research field is the development of new food products with a special focus on sustainability. She has been Head of the PhD Programme Technology and Quality in the Food Industries with Distinction of Quality at the UPNA, as well as Head of the Masters of Research in Technology and Quality in the Food Industries. She has extended experience in new pedagogical teaching methodologies that emphasize meaningful learning. Since 2014 she lectures in Food innovation and Tools for food safety and quality assurance in the BSc Degree in Innovation on Food Processes and Products. She also teaches in the Master's degree in Technology and Sustainability in Food Industries (TESFI) at UPNA. She leads the Erasmus+ co-funded project NEMOS - A new educational model for acquisition of sustainability competences through service learning-.

54. Relevance of scientific production to the SDGs in Latin America

Prof. Dr. Marta Lucia Tostes Vieira, Miguel Saravia PhDc,

ABSTRACT:

To understand the specialization relevance of the scientific production according to the SDGs and by knowledge area in the face of productive structures and sustainability challenges, quantitative descriptive research is carried out with bibliometric tools. A dynamic table shift share (change and participation) is used, separating the total variation in production between 2018 and 2022, between Latin American, sectoral, and national spheres, with the information from Incites (WoS) of LAC 6 OECD categories and for 6 representative countries: Argentina, Brazil, Chile, Colombia, Mexico, and Peru. In particular, the evolution of scientific and innovative activity (STI) in Peru in the period 2002-2021 is analyzed, as well as the relationship with the SDGs, coinciding with the impulse given to STI and the reform of the university system. The study shows the evolution of the indicators of quality, collaboration, impact, and scientific and technological productivity (patents) in each of the 16 SDGs using information from Scopus and WoS. To identify the information, the algorithms and indicators contained in Scopus were used and, in the case of WoS, the algorithm contained in the Incites tool. For information on STI investment, information from the RYCT and CONCYTEC was used, while patent information was obtained from the WIPO portal. It is found that the specialization of scientific production in LAC is not very consistent: the relative specialization of scientific production is greater in Brazil in the field of agriculture, while in Peru it occurs with greater intensity in the field of health. In a general way, the greater need for publications in the Natural Sciences is understood, but this occurs more intensely in countries that do not have the biodiversity of Peru or Brazil. In fact, a sustained increase in Peruvian STI production is observed throughout the period, although differences are observed between the five-year periods that are explained by the political situation, and a decrease in its participation at a global level. In 2002, Peruvian scientific production represented 0.03% of the world total and in 2021 it represented only 0.01%. However, there is a very high correlation between investment in R&D and the increase in scientific production (correlation of 0.8074 with Scopus and 0.8675 with WoS), although it is not the same correlation with technological production, where patent applications continue to be dominated by non-domiciled people. In relation to scientific publications related to the SDGs, it is observed that they have been multiplying by 2 in each five-year period analyzed, and slightly improving their participation in the entire scientific production linked to the SDGs (from 0.0006 in the five-year period 2002-2006 to 0.0019 in the period 2017-2021). Furthermore, the Peruvian scientific production has focused mainly on SDG 3, while that relating to SDG 1 occupies the last place and SDG 4 the second to last place, which is consistent with the global trend for the period studied.

Keywords: Scientific production, sustainability, SDGs, Latin America

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President of ALTEC, 2019-2021 and 2021-2023. Doctor in Economics and Business Sciences from the University of Seville, Spain; Master and Graduate in Economic Sciences from the Federal University of Rio de Janeiro (Brazil); Certificate of ESG Criteria and Standards, Certificate of Project Management and Quality from the Quality Institute, PUCP. International consultant and researcher in sustainable innovation; strategic management; development plans, programs and projects.

Mag. Mag. Miguel Saravia is Regional Director of the Wyss Academy for Nature's Hub for South America at the University of Bern, PhD Candidate at Doctoral Program in Strategic Management.

55. Sulfur Concrete for Immobilization of Waste Products: Preliminary Study Using Fly Ash and Blast-Furnace Slag

Dr. Masataka Okutsu, Patricia Kwiatek, Dr. Winnie Kwai-Wa Wong-Ng, Dr. Lawrence P. Cook, Dr. Aaron Barkatt

ABSTRACT:

In recent decades, sulfur concrete has gained interest as a candidate medium for immobilization and storage of hazardous wastes such as fly ash. The idea can be extended for containment of other types of wastes and of soils that are contaminated by toxic, radioactive, or mixed wastes. In this paper, sulfur concrete specimens that incorporate 20% waste products—blast-furnace slag (BFS) or different types of fly ash—were fabricated and their compressive strengths were measured. Compared to the compressive strength of pure sulfur concrete specimens (21–23 MPa), sulfur concrete specimens with 20% BFS or 20% fly ash have increased their compressive strengths to 28–33 MPa and 41–46 MPa, respectively. The difference in observed strengths of different types of sulfur concrete may be largely attributed to the differences in particle size among the aggregate additives used. This hypothesis was supported by experiments using sulfur concrete containing 50% of igneous material from the Mojave Desert with various particle sizes. Furthermore, the analysis using micrographs and X-ray diffractograms both of which did not detect any chemical interactions between the sulfur and the aggregates or additives (i.e., fly ash, BFS, crushed basalt, igneous material).

Keywords: Sulfur concrete, plastic wastes, microplastic, fly ash, waste immobilization, compressive strength

Dr. Masataka (“Masa”) Okutsu is Assistant Professor of Engineering at Penn State Abington. Dr. Okutsu received Ph.D. in Aeronautics and Astronautics from Purdue University.

Patricia Kwiatek received her B.S. in Chemistry from The Catholic University of America. She is currently a graduate student at Duke University.

Dr. Winnie Kwai-Wah Wong-Ng is a research chemist at the ceramics division at the National Institute of Standards and Technology. She is a fellow of the International Centre for Diffraction Data, American Ceramic Society, American Crystallographic Association, and the American Association for the Advancement of Science.

Dr. Lawrence P. Cook is Research Ordinary Professor in the Department of Chemistry at The Catholic University of America, Washington, D.C.

Dr. Aaron Barkatt is Professor Emeritus in the Department of Chemistry at The Catholic University of America, Washington, D.C.

56. The Economic Engine of Resilience: A Gray Relational Analysis of Regional Disaster Preparedness in Indonesia

Melti Roza Adry Ph.Dc, Prof. Dr. Ir. Akhmad Fauzi, Prof. Dr. Ir. Bambang Juanda, Assoc. Prof. Dr. Andre Emma Pravitasari

ABSTRACT:

The impact of climate change, rapid population growth, urbanization, economic development, and the exploitation and uncontrolled use of natural resources is leading to an increase in natural disasters and the resulting losses. This poses a significant challenge for regional development in Indonesia. Enhancing regional resilience is crucial for improving the ability of regions to cope with both hydrometeorological and geological disasters. While existing research primarily focuses on the social, economic, and environmental impacts on regional resilience, there is a lack of analysis on the interrelationships between these indicators. This study aims to identify the key factors influencing regional resilience to natural disasters in Indonesia by utilizing Grey Relational Analysis (GRA). GRA is a data analysis technique that assesses the correlation between factors to determine their impact on regional resilience. The research incorporates data from 34 provinces in Indonesia across economic, ecological, social, and infrastructure dimensions. The findings indicate that economic indicators play a more significant role in determining regional resilience to natural disasters in Indonesia. Therefore, insights from studies on regional resilience can inform sustainable regional development planning efforts.

Keywords: Resilience; Regional Disaster Preparedness; Grey Relational Analysis; Sustainable regional development

Melti Roza Adry is a Ph.D. student at Regional and Rural Development Planning, Bogor Agriculture University (IPB University, Indonesia). She is also a lecturer at Economics Department, Faculty of Economic and Business, Universitas Negeri Padang, Indonesia. She completed her bachelor's and master's degrees in economics at Universitas Negeri Padang. Apart from actively teaching, she is also active in research and community service. Her research interests are in Resources and Environmental Economics, regional development economics and sustainable development. She is a member of Indonesian Economist Association (ISEI). She is also actively participate in economic valuation training, Indonesian Family Life Survey (IFLS) data processing by using STATA, qualitative-quantitative analysis (QCA) and other analytical tools.

Prof. Dr. Ir. Akhmad Fauzi, M.Sc. is a professor at Regional and Rural Development Planning, Faculty of Economics and Management, Bogor Agricultural University. He received his Ph.D. in economics from Simon Fraser University, British Columbia, Canada. He has been visiting professor at University Kebangsaan Malaysia and Nha Trang University Vietnam. Apart from taking part at the national level as an expert in the ministry, he is also active in various international institutions and international scientific meeting forums. He is a member of various national and international professional associations. He is actively involved in various training in sustainability analysis methods and strategic analysis for various groups, including researchers, lecturers, NGOs, and the Indonesian military. His research interest in resource and environmental economics, fisheries economics, regional studies, and sustainable development.

Prof. Dr. Ir. Bambang Juanda, MS is a Professor of Economics at Bogor Agricultural University (IPB University, Indonesia), where teaches Macroeconomics, among other courses. He received his Ph.D. in economics from University of Innsbruck, Austria. He once served as Head of Study Program (S2/S3) of Regional and Rural Development Planning Sciences, Graduate School, IPB (2008-2016). His Research interests are in Behavioral & Experimental Economics, Fiscal

Decentralization, Regional Economic Development, and Public Financial Management. He is a member of Indonesian Statistician Association (ISI), Indonesian Economist Association (ISEI), Field Head on Experimental Economics, ISEI of Bogor Raya, Member of Indonesian Regional Science Association (IRSA) and Member of Regional Development Economist Forum.

Dr. Andrea Emma Pravitasari, SP, M.Si. is a lecturer at Regional Development Planning Division, Dept. of Soil Science and Land Resources, IPB University. She finished her Ph.D at Kyoto University (Japan), especially from Laboratory of Regional Planning, Graduate School of Global Environmental Studies (GSGES). She is also researcher at Center for Regional , Systems, Analysis, Planning and Development (CRESTPENT/P4W), LPPM-IPB. Now, she serves as the Head of Regional Planning Science Study Program (Master Program). Her research interests are in regional planning, environmental studies, and spatial modelling. She was a panel member academic program evaluation that organize by the Directorate General of Higher Education, Ministry of Education, Youth, and Sport, Cambodia at 2023. She has been visiting lecture in Faculty of Science, University of Ostrava in 2023.

57. SWOT Analysis of Sustainability Parameters of Native Sheep Farming on the Sjenica Pester Plateau

Prof. Dr. Mila Savic, Prof. Dr. Vladimir Dimitrijevic, Prof. Dr. Zsolt Becskei, Dr. Elmin Taric

ABSTRACT:

The study performed a SWOT analysis to evaluate the sustainability parameters of Sjenica sheep farms situated in traditional habitat. The Project of the Republic of Serbia 2011-2024, led by FVM University of Belgrade, aims to support sustainable sheep farming in this region to protect animal resource diversity and promote rural development. Data for this study were collected by field research and literature analysis. Our study conducted a SWOT analysis of sustainability parameters in mountain farms with native Sjenica sheep over the past 12 years, identifying key factors influencing the sustainability of this farming system. Strengths of the system include the adaptability of the Sjenica sheep breed to specific climatic conditions, the utilization of traditional breeding methods, and strong local economic support. Nevertheless, weaknesses such as limited market access and threats such as climate change present hurdles to the system's sustainability. Opportunities for improvement include the development of value-added products from native Sjenica sheep and accessing new markets. Understanding these factors is essential for developing strategies to enhance the sustainability of sheep farming in traditional habitat thereby contributing to environmental sustainability, biodiversity conservation and rural development in the region.

Keywords: SWOT analysis, sheep farming, conservation

- Dr. Mila Savic** is professor at the Department of Animal Breeding and Genetics, Faculty of Veterinary Medicine, University of Belgrade. Leader of the Project of the Ministry of Science, Technological Development and Innovation of the Republic of Serbia: "Management of sustainable farming in organic lamb production as a support to rural development" (451-03-66/2024-03/200143). Participant at the Program in Higher Education, Research and Development in the Western Balkans HERD/Agriculture Project 09/1548 (332160UÅ) "Research, education and knowledge transfer promoting entrepreneurship in sustainable use of pastureland/grazing".
- Professor dr Vladimir Dimitrijevic** is Head of the Department of Animal Breeding and Genetics, Faculty of Veterinary Medicine, University of Belgrade. Participant of the Project of the Ministry of Education, Science and Technological Development of Republic of Serbia: "Molecular genetic and eco physiological researches on the protection of autochthonous animal resources, sustaining domestic animals' welfare, health and reproduction, and safe food production" (451-03-68/2020-14/200143).
- Dr Zsolt Becskei** is professor at the Department of Animal Breeding and Genetics, Faculty of Veterinary Medicine, University of Belgrade. Participant of the Project of the Ministry of Science, Technological Development and Innovation of the Republic of Serbia: "Management of sustainable farming in organic lamb production as a support to rural development" (451-03-66/2024-03/200143). Participant at COST Action CA 15134 and COST Action CA 15116.
- Dr Elmin Taric** is assistant at the Department of Animal Breeding and Genetics, Faculty of Veterinary Medicine, University of Belgrade. Participant of the Project of the Ministry of Science, Technological Development and Innovation of the Republic of Serbia: "Molecular genetic and eco physiological researches on the protection of autochthonous animal resources, sustaining domestic animals' welfare, health and reproduction, and safe food production" (451-03-66/2024-03/200143).

58. Direction of Finnish Climate Strategy under Right Wing Government

Dr. Minna Havukainen

ABSTRACT:

The 2015 Paris agreement (PA) represents a profound change in global climate governance. This agreement adopted in December 2015 is widely considered as a major breakthrough in global climate governance, with the potential of becoming a blueprint for other governance arenas. However, the varying success of reaching the climate targets and growing right wing populism poses a question of which direction the EU climate policy is moving after ten years of PA? The success of this agreement depends heavily on the effectiveness of national climate change policies wherein political parties have a critical role in developing these policies while also having an impact on public attitudes on climate change. Are the climate negotiations challenged due to growing right wing power? We use the case of Finnish climate strategy as a case of national climate strategy under shift of power. We conduct a comprehensive analysis of Finnish climate policy documents from by using Ostrom's Institutional and development Framework. IAD framework (IAD) is a conceptual tool developed by Ostrom and her colleagues to analyze and understand the complex interactions and dynamics within institutions that govern common-pool resources.

Keywords: Climate strategy, Climate policy, Finland, IAD framework, right wing politics, Climate policy attitude

Dr. Minna Havukainen is a doctoral researcher in School of Engineering Science, LUT University, Finland. She is part of a research group Energy and Society where she investigates the impacts and effectiveness of energy policy and climate policy.

59. Sustainable Development Revisited: Rethinking Growth-Centric Paradigms Through the Lens of the Sabbath

Molly Graham

ABSTRACT:

At the temporal midpoint of the 2030 Agenda for Sustainable Development, political momentum has widely failed to be converted into action. This paper is a reaction to the mounting evidence that exposes a paradox at the core of these global goals: the dominant economic paradigm at the foundation of these strategies is the driving cause of the social and ecological deprivation they exist to eliminate. Consequently, sustainable development is a chimaera, rendered impotent by the internal contradictions of its growth-centric theory of change. To capacitate an agenda that can simultaneously halt ecological overshoot and eradicate poverty, we must consider praxes beyond the current paradigm of capitalist realism. I adopt a post-development lens to imagine a radically alternative future that reinstates a millennia-old practice of liberation—the Sabbath. I theorize the Sabbath as a structural commitment to reforming relations between labor, humans, progress, and the environment. I argue that a multi-level reinstatement of the Sabbath overcomes the limitations of the major post-development paradigm, degrowth, by providing an ethical foundation for self-limitation and a basis for human identity beyond productive capacity. I conclude by delineating practical applications of Sabbath observance into individual, community, and structural levels. This essay contributes to ongoing discussions about pragmatic action at local and extra-local strata. It advances knowledge in the field by challenging prevailing degrowth ideologies and offering a transformative vision for a more equitable and sustainable world.

Keywords: Social policy, Post-Development, Ideology, SDGs, Degrowth, Reform, Praxis.

Ms. Molly Graham is a student at the University of Toronto pursuing a combined honors degree in health studies, political science, and critical equity studies. She is also a member of the Reach Alliance, a research consortium committed to collaborating with hardly reached populations to assist the realization of the Sustainable Development Goals. Her current project investigates the ability of a novel digital data tool, SMART+, to facilitate the conversion of political momentum into a measurable reduction in malnutrition in hard-to-reach communities in Kenya. Committed to social justice in both theory and praxis, Molly's research interests lie at the intersection of international health equity, human rights, and global governance.

60. Issues in Adaptation Methods by and Climate Resilient Infrastructure for Smallholder Farmers in Arid and Dry Rural Areas in Zimbabwe

Mthabisi Msimanga, Gilbert Mushangari

ABSTRACT:

This article is based on a study that attempted to explore and discuss adaptation methods adopted by smallholder farmers and suitable climate resilient infrastructure for arid and dry rural areas in Zimbabwe. By a narratological and case method approach, we build a discourse around the topic in our broader quest for a sustainable panacea to the issues identified and discussed. Smallholder farmers have been encouraged to create such infrastructure like boreholes and installation of water harvesting tanks onsite. These generally are expensive to install but easy to manage in the long run. The switches of currencies in Zimbabwe and the payment to smallholder farmers by ratios of local to United States dollar often etch into the farmers' incomes. For offsite infrastructure, the issue of collective access, control and utilisation of the resources involved is part of the debate and practice. We conclude that, in the maze of providing space for smallholder farmers in the search for effective adaptation to climate change and its impact, there are several loose ends needing tightening. Sustainability and collectivism come in as part of ensuring the expected impact.

Keywords: Aridity, livelihoods, poverty reduction strategy, environmentalism

Mthabisi Msimanga is the Interim Business Analyst and Impact Reporting Specialist for World Vision Southern Africa which has a coverage on nine Field Offices (Angola, DRC, Eswatini, South Africa, Lesotho, Mozambique, Malawi, Zambia and Zimbabwe). Mthabisi has keen interest on research focusing on Resilience and Livelihoods, Environmental, Sustainability and Climate Change including urban and peri-urban dynamics. Research has allowed Mthabisi to collaborate with Zimbabwe local universities (Zimbabwe Ezekiel Guti University (ZEGU), University of Zimbabwe, National University of Science and Technology) and external Universities (Charles Darwin University, Emory University) with aim of generating new body of knowledge to inform strategic decision making and inform programming. Having worked in both non-profit and private sector and gaining research knowledge from affiliate Universities. Mthabisi has demonstrated results in program monitoring and evaluation, abstract writing and reporting and has helped some NGOs in Africa set their MEAL systems and maintaining their brand visibility.

Gilbert Mushangari is the Resilience, Livelihoods and Climate Change Technical Advisor for World Vision Zimbabwe. He possesses a total of 21 years in the food security and humanitarian sector with special expertise in promoting climate proofed agro-food systems and is responsible for leading all environment and climate change programmes for World Vision Zimbabwe. He has implemented several projects supporting climate change adaptation and mitigation and is currently providing technical leadership in the assessment, design and implementation of the various projects in the country. Gilbert has a keen interest on research focusing on Resilience and Livelihoods, Environmental, Sustainability and Climate Change including urban and peri-urban dynamics. Research has allowed Gilbert to collaborate with Zimbabwe local universities (Zimbabwe Ezekiel Guti University (ZEGU), University of Zimbabwe, Great Zimbabwe University, National University of Science and Technology) and external Universities (Charles Darwin University, Emory University) with the aim of generating new body of knowledge to inform strategic decision making and inform programming. Gilbert has demonstrated results in climate smart agriculture projects designed and implemented across the country.

61. Engaging HEIs for Sustainable Development: Opportunities, Challenges, and Best Practices at European HEIs

Muhammad Sohail, Dalia Karlaite

ABSTRACT:

Universities play a crucial role in contributing to the achievement of the United Nations Sustainable Development Goals (UN SDGs) by 2030. This practice-based manuscript aims to identify opportunities for HEIs to contribute to sustainability efforts, elucidate the challenges, and present best practices to overcome these challenges and to provide insights into how HEIs can effectively engage in sustainable development initiatives and contribute meaningfully to societal progress. The results are important for policymakers, educators, and stakeholders on enhancing sustainability initiatives within higher education institutions for a more sustainable future. Methods: This paper draws upon the notions of practise variation and institutional work from institutional theory and empirically focusses on the case of ViKo-LT, UPO-ES and Savonia-FI. This case study employs an autoethnographic approach to illustrate the experiences of six colleagues from three Higher Education Institutions (HEIs). The findings of this study share opportunities, challenges, and best practices faced by the partners of the EU-funded project in Universities for Sustainable Development (USD). The USD project is contributing to the achievement of the SDGs through the digitization of the implementation of the 2030 Agenda at universities in Spain, Lithuania and Finland. It promotes and facilitates the integration of the SDGs in all areas (activities, curriculum, and research) of university activity, promoting the 2030 Agenda across the universities through Artificial Intelligence. The presentation of best practices offers practical guidance for HEIs seeking to improve their sustainability performance and maximize their impact on society.

Keywords: HEI, SDG, Challenges, Opportunities, Best practices, AI, Scorecard.

Mr. Muhammad Sohail is Senior Lecturer/ Researcher at Vilniaus kolegija / Higher Education Institution Lithuania. As a Business and Social Innovation Researcher, his main research interests fall into the area of Digitalization, Innovation and Sustainability. Furthermore, he supervised various projects on Sustainability and Innovation related issues in various regions, helping them identify their unique strengths and opportunities for growth. Currently M. Sohail works as a researcher at the international project "Universities for Sustainable Development".

Dalia Karlaite is coordinator of the activities in sustainability and social responsibility at Vilniaus kolegija / Higher Education Institution (VIKO), Vilnius, Lithuania, and lectures Business Ethics (BE) and Corporate Social Responsibility (CSR) in module Sustainable Development for more than 10 years. Researcher at the international project "Universities for Sustainable Development".

62. Cultivability and Regenerative Potential of Vegetable and Herb Species in Student Living Accommodations

Nicole Allen, Elaina Render

ABSTRACT:

We fail to take advantage of the opportunity to advance sustainability by not harnessing the potential for establishing small-scale urban gardens within student residential quarters in urban campuses. This limits students' agricultural education and their access to locally grown foods. It is important to gain a deeper understanding of the factors preventing younger generations from engaging in food production. We surveyed students (n = 378) at an urban campus (Georgia Tech, in Atlanta, Georgia) to determine the limiting factors from engaging in at-home agriculture. The main deterrent was a lack of supplies and knowledge. To explore this, we sent a select group of students (n=20) supplies to begin a dorm-sized garden, including four plants (one herb, leafy green, self-pollinating vegetable, and root vegetable). We provided them with weekly mentoring and monitored plant and participant progress weekly. Based on resultant data, we will evaluate which plants produce enough yield, with limited time and effort, that they should be regularly incorporated into student living. Increased education surrounding agriculture in college will bring into focus the importance of understanding the growth process of one's food. It will limit the environmental impact of food transport through increased reliance on locally- and self-grown products.

Keywords: Local Food Systems, Urban Agriculture

Ms. Nicole Allen is a student in the Coulter Department of Biomedical Engineering at Emory University and Georgia Institute of Technology. Head of research study on incorporating urban agriculture practices into student lifestyles and increasing awareness of local food sources in urban spaces. A leader of the rooftop garden on the Kendeda Building for Innovative Sustainable Design, one of twenty-five certified Living Buildings. Interested in increasing access to healthy food sources while decreasing environmental impact.

Ms. Elaina Render is a student in the School of Civil and Environmental Engineering at Georgia Institute of Technology, where she conducts research into incorporating urban agriculture practices into student lifestyles and increasing awareness of local food sources in urban spaces. Her academic interests include the development of more sustainable and equitable cities.

63. An Expert-Based Analysis of ESG Reporting in the Context of the Circular Economy

Assoc. Prof. Dr. Tamara Menichini, Gennaro Salierno PhDc, Nicoletta Maria Strollo PhDc

ABSTRACT:

Existing literature has highlighted how Environmental Social Governance (ESG) reporting enables companies to drive their Circular Economy (CE) practices. However, current approaches to ESG reporting do not specifically consider how company activities and decisions about CE contribute to sustainable development. Indeed, CE has a great potential to ensure that companies actively participate in the achievement of the United Nations 2030 Agenda Goals although a more effective way to link CE and sustainability reporting processes is necessary. Taking into consideration the relevance of the GRI guidelines to make ESG performance of companies more transparent, the present paper proposes an expert-based analysis of the importance of GRI topics to capture the ability of CE practices to create circular value. Creating circular value through CE improves the company's profitability and resilience while reducing costs for customers, and benefits society and the environment. The use of the fuzzy AHP (F-AHP) method ensures that the relevance of the economic, environmental, and social performance is estimated to make ESG reporting more informative about the company's commitment to a restorative and regenerative business. The findings offer guidelines for using CE reporting information to compare the companies' contributions to SDGs.

Keywords: ESG reporting; GRI standards; Circular Economy (CE); Fuzzy Analytic Hierarchy Process (F-AHP); Sustainable Development Goals (SDGs); circular value

Tamara Menichini, PhD is an Associate Professor of Business and Management Engineering at the University of Rome "Niccolò Cusano", Italy. Her current research interests regard Corporate Sustainability, Corporate Social Responsibility (CSR), Sustainability Reporting, Sustainable Development Goals (SDGs) Reporting, Eco-Innovation, Circular Economy, and Gender Equality.

Gennaro Salierno is a PhD student in Sustainable Innovation Engineering and Territory in the Business and Management Engineering context at the University of Rome "Niccolò Cusano", Italy. His research interests are Corporate Sustainability, Corporate Social Responsibility (CSR), Sustainability Reporting, and SDGs reporting.

Nicoletta Maria Strollo is a PhD student in Industrial Innovation Engineering in the Business and Management Engineering context at the University of Rome "Niccolò Cusano", Italy. Her research focuses on Circular Economy, Industry 4.0, Sustainable Development Goals (SDGs) Reporting, Sustainability Reporting, ESG Reporting, and Sustainable Development.

64. Effects of Rural Banditry on Food Security and Poverty Reduction in Nigeria.

Dr. Nneka Nwankpa

ABSTRACT:

This study examines the effects of rural banditry on achieving sustainable food security and Poverty reduction in Nigeria. Data were collected from the publications of Central Bank of Nigeria, Food and Agricultural Organization, the International Monetary Fund, and academic journals as well as field surveys. Three hundred questionnaires were administered to farmers in six states via: Plateau, Nassarawa, Kaduna, Benue, Oyo and Niger, in addition to a focused group discussion with selected farmers in each of the study areas. Data collected were analysed using descriptive and inferential statistics. Findings reveal that unemployment, poverty, bad governance, poor infrastructure, inadequate security measures, and poor institutional coordination were major causes of bandits; farmers experienced disruptions in farming activities due to wanton loss of lives, farmlands, personal properties and psychological distress; food production decreased drastically leading to food shortages, hikes in food prices, malnutrition and increased poverty level in Nigeria. This study emphasizes the urgent need by the federal and state governments to tackle the problems of unemployment and poverty; develop infrastructure; increase security expenditure; and implement targeted rural development policies. These solutions will curb rural banditry, ensure food security and reduce poverty in Nigeria.

Keywords: Rural Banditry, food security, poverty reduction, food production, development policies, farmers.

Dr (Mrs) Nneka Nwankpa is a Chief lecturer and the former Director of Academic Programme in Federal Polytechnic, Ede, Osun State, Nigeria. She is a member of Nigerian Economic Society and Women in Technical Education, Nigeria. Dr (Mrs) Nneka Nwankpa acts as the external Assessor to the Federal Polytechnics in Offa, Ado-Ekiti and Ibadan, Nigeria. She has attended and delivered papers in several International Conferences in the University of Ghana, Accra, University of the Western Cape, Cape Town, South Africa, University of London, London, ECSD conference in Rome, Italy and workshops in University of Cambridge, United Kingdom, Zimbabwe and Dubai. She has published books in Microeconomic Theory and Managerial Economics.

65. 1. Is there Enough Room for New Green Deal and Sustainable Development Prospects in the EU Considering the Rising Pressure of Corruption and Poverty?

Assoc. Prof. Dr. Oana-Ramona Socoliuc (Guriță), Prof. Dr. Nicoleta Sirghi, Dr. Piotr Komorowski

ABSTRACT:

In 2019 the New Green Deal was launched as a high ambitious project to shape a fair and prosperous EU until 2050, but nobody knew then what future will bring. The two major waves of shock emerged in the last years, namely the Covid pandemic and the ongoing war at the EU Eastern borders with its subsequent refugee crisis, inflation pressure have brought the growing problem of poverty back into the focus of current economic analysis. Such issue had larger dimensions and deeper implications in those nations where economic development was hindered by the limited institutional effectiveness transposed in higher corruption. Consequently, our paper investigates the chances of the EU to reach sustainability objectives assumed in 2019, considering the impact of corruption, perceived as rather institutional anomaly, on the level of poverty among EU nations. On the basis of an original dataset we employ a panel data analysis to investigate the manner in which corruption, as a major symptom of rather extractive institutional background can harm sustainable development on the long run, while determining higher levels of poverty. Results point out uneven chances for the EU countries to shape a common sustainable future, when corruption thrives determining higher poverty pressure.

Keywords: EU New Deal, sustainable development, institutions, corruption, poverty, crises

Oana-Ramona Socoliuc (Guriță) is Associate Professor, PhD at the Department of Economics and International Relations, Faculty of Economics and Business Administration of the Alexandru Ioan Cuza University of Iasi, Romania. She holds a PhD in Economics, and has conducted two research grants that concern Romania's integration performances in the EU. She was a member of one Jean Monnet Project on the topic of EU sustainability and one project on bilateral cooperation and mobility between Romania and the Republic of Moldova on the topic of promoting sustainable development in these two countries. Her areas of interest are European economics, institutional economics, the economics of transition and sustainable development. She is member of the Editorial Board of the European Journal of Sustainable Development since 2016, and also a member of the International Society of New Institutional Economics.

Nicoleta Sirghi is Professor PhD habil. of Economics at the Department of Economics and Economic Modelling, Faculty of Economics and Business Administration, West University of Timisoara, Romania. The main direction of the research field is related to the study of dynamic systems from economy and games theory with applications in economics. Her research is interdisciplinary and uses applied economic methods to understand how businesses and regions can become more sustainable. The ability to manage the research teams is proved by the tenure as project manager or as a member in numerous research projects. She has conducted research in Economics and has published extensively in prestigious journals. Also, she is a member of numerous Scientific Committees of International Conferences and a reviewer for prestigious international ISI and BDI journals. The autonomy of the research activity is reflected by the outcome materialized in 10 books, over 220 articles in ISI and BDI journals. It is worth mentioning the amount of 350 citations in ISI and BDI journals.

Piotr Komorowski is Deputy Director of the Centre for the World Economy in Warsaw, Poland and Assistant Professor at the Cardinal Stefan Wyszyński University in Warsaw where he lead two research projects and focus its main scientific interest on areas like: Financial security of a state,

sustainability, economic growth, digitalization in banking, financial stability, financial crisis. He holds a PhD in Economics and teaches disciplines such as: Macroeconomics, International Economics and Financial Economics. He published numerous scientific articles and participated in dozens of international conferences, covering the latest relevant issues such as the impact of Covid-19 on the process of globalization, financial security challenges in hard pandemic times, the economic consequences of Covid, or sustainability issues.

66. Disaster management of Covid-19: A study of India

Dr. Puranjay K. Vedi, Prof. Pradeep Kumar Kulshrestha

ABSTRACT:

COVID-19 capsulated the whole world in a dangerous loop of death and crippled the transformative capacity of science and technology to save the mankind. Law, once monopolized by man, was soon hijacked by the law of nature and the only remedy available was to draw boundaries (in form of Lockdown). Legislative measures, medical facilities, and vaccine drives altogether helped in timely control of COVID-19; however, the world statistical data is evident of the fact that few countries were able to manage COVID-19 very well in contrast to others. It is true that no country was prepared for COVID-19 and neither was India, however, India objectified the interpretation of its existing legislations purposefully to control the spread of COVID-19. The objective of this article is to narrate the best practices adopted by India which helped in timely control of COVID-19 and finally suggest guidelines to control such pandemics in future.

Keywords: Covid-19, Disaster Management, Lockdown, Vaccine.

Dr. Puranjay K. Vedi is Assistant Professor of Law, School of Law, Bennett University Greater Noida, Uttar Pradesh, India. Dr. Vedi holds a PhD (Law) from University of Delhi, India. Dr. Vedi has a keen interest in Comparative Law, Constitutional Law, Jurisprudence, Criminal Law and Climate Change Refugees.

Prof. Pradeep Kumar Kulshrestha is Dean, School of Law, Bennett University, Greater Noida, Uttar Pradesh, India. Prof. Kulshrestha is an alumnus of Kurukshetra University and Jodhpur University. He has been awarded Honorary Doctorate (Law) by National American University, South Dakota, USA for his contribution to the field of legal education. He is also a recipient of the UP Government merit scholarship.

67. Photovoltaic Roofs as a Contemporary form of Ecological and Aesthetic Solution

MSc. arch. Rafał Stabryła

ABSTRACT:

Photovoltaic roofs used in residential construction are an innovative application of renewable energy technology that integrates solar panels directly into the roofing material of homes. This approach allows homeowners to generate their own electricity by harnessing solar energy, significantly reducing reliance on traditional power sources and lowering energy bills. The benefits of photovoltaic roofs in residential buildings include enhanced energy efficiency, as these systems convert sunlight directly into electricity. This not only reduces the cost of energy consumption but also increases the energy independence of households. Furthermore, the integration of photovoltaic panels into roofing materials often results in a more aesthetically pleasing appearance compared to traditional solar panel installations, appealing to homeowners who prioritize the visual aspect of their homes. Ecologically, photovoltaic roofs contribute to a reduction in greenhouse gas emissions and decrease dependence on fossil fuels, which is beneficial for the environment. They are available in various forms, such as solar tiles or integrated roofing systems, allowing for flexibility in design and installation based on specific climatic conditions, roof orientation, and energy needs of the home.

Keywords: Photovoltaic roofs, ecology, solar solutions

MSc. arch. Rafał Stabryła is a teaching and research assistant at the Lublin University of Technology. As a research employee, he deals with the subject of educational architecture, mainly: primary schools established since 2000.

68. Intimate Partner Stalking: Latest Developments of Legal Response in Lithuania

Assoc. Prof. Dr. Ramunė Jakštienė

ABSTRACT:

This statement. Due to shortcomings of anti-stalking legal regulation and difficulties in prosecution, legal response to intimate partner stalking in Lithuania is not adequate. Methodology. Interdisciplinary content analysis of case law. Results. Stalking is one of the most misunderstood and under-researched violations although it is very typical within intimate relationships. Due to the complex nature of the phenomenon, legal response to intimate partner stalking is very complicated. Special criminal legal regulation on stalking is a clear trend in EU. Recently some relevant amendments were introduced in Lithuania in this regard as well. Conclusions and Implications. Criminal legal regulation against stalking has substantial shortcomings. Misinterpretation, difficulties in recognizing and evidencing stalking are the biggest challenges in prosecuting partner stalking. Revision of the new law on stalking, training of law enforcement officers, and building on the specifics of stalking are most important directions for future developments in this field.

Keywords: Stalking, intimate partner violence, criminalization, prosecution

Dr. Ramunė Jakštienė is an associate professor at Mykolas Romeris University, Vilnius, Lithuania. Protection against domestic violence is the main field of her professional interests (teaching, research, and expert activities). Currently she is doing a postdoc research at Vytautas Magnus University, Kaunas, Lithuania. The objective of this research is to determine the measures to improve the criminal law response to intimate partner stalking.

69. Connecting Students With Nature And Sustainability To Support Mental Health And Wellbeing

Rebecca Gallagher, Dr. Debra Bath

ABSTRACT:

This paper describes an action research project designed to support secondary-school students' mental health and wellbeing through engaging with gardening and food sustainability. Recent research reports that young people are experiencing increasing mental health concerns, and some suggest that this is significantly related to a disconnect from nature, particularly in urban areas. Thus, this project aimed to facilitate students' connection with nature and experience of resilience in nature, as a framework for developing a connection with, and understanding of, own health and wellbeing. The research team included the authors who are staff at the school and two 'critical friends', who are experienced academics in educational research. Students who accessed the school counselling service were invited to participate in the 'farm project' over the course of a term (9 weeks), for 1.5 hours per week as an extra-curricular activity. Students completed pre- and post-project measures of connection to nature, and mental well-being, and participated in a qualitative interview about their experiences at the completion of the project. The findings and implications of the project are discussed, in terms of the relationship between mental health and connection with nature in school settings, and the potential longer-term research directions.

Keywords: connection to nature, mental health, adolescents, wellbeing

Rebecca Gallagher has a demonstrated history of teaching and leading secondary school curriculum, including for the Queensland Certificate of Education, the International Baccalaureate Diploma Programme and Vocational Education and Training. In the Pastoral care realm, Rebecca has also held educational leadership positions, including Head of Year and Acting Dean of Academic Welfare, and preferences a relational and restorative pedagogical approach. Rebecca is now in pursuit of student wellbeing and ecological sustainability and is committed to cultivating students' sustainable wellbeing literacy, in order for them to develop the knowledge, skills and attitudes necessary for a flourishing life.

Dr Debra Bath is a registered psychologist and trained counsellor, and has over 20 years of experience in university teaching in psychology, counselling and education. She is currently a secondary school counsellor, and also provides supervision for Walk and Talk for Wellness which is a not-for-profit community nature-based counselling service of which she is a co-founder. Debra's research combines her therapeutic practice interests and expertise in counselling education and professional development, as well as student mental health and well-being.

70. Impacts on Biogenic Carbon Dioxide Emission Fluxes Driven by Generated Numerical-Downscaled Climate Scenarios

Prof. Dr. Roberto San Jose, Prof. Dr. Juan Luis Perez-Camanyo, Assoc. Prof. Dr. Miguel Jiménez Gañán

ABSTRACT:

The aim of this research is to analyse the local impacts (high spatial resolution) of tier 1 CMIP6 climate scenarios (SSP126, SSP245, SSP370 and SSP585) on CO₂ biogenic emission fluxes after downscaled climate data over five European regions (national, regional and urban scale) for the period: 2015-2050 using numerical simulations with the WRF/Chem-VPRM tool. VPRM is the Vegetation Photosynthesis and Respiration Model which is coupled with the Weather Research and Forecasting (WRF) model and Chem (Transport). Satellite data is used to derive vegetation indexes used by the VPRM model. The effect of climate is isolated using 2018 (reference year) emissions and land use over the entire simulation period and it is calculated as results of the future simulations minus present (2018). The research is part of the European DISTENDER project, who develops a methodological framework to bring together adaptation and mitigation strategies against the risks of climate change. The increase in temperature leads to higher CO₂ emissions from vegetation, as the increase in temperature favours the respiration process of plants. The impacts are spatially and temporally varied and therefore each case study and scenario has its own pattern, with a strong influence on the existing vegetation and local climate.

Keywords: Climate change, CO₂, biogenic emissions, scenarios, downscaling

ROBERTO SAN JOSE completed his PhD in 1982 related to the unstable surface turbulent boundary layer parameterization. He has been involved in air pollution modelling mainly using three-dimensional mesoscale models, such as MM5 and CMAQ. He created the Environmental Software and Modelling Group at Computer Science School of the Technical University of Madrid (UPM) in 1992. He spent one year at the Max-Planck Institute for Meteorology and two years at IBM-Bergen Environmental Sciences and Solution Centre. He has more than 150 publications in different national and international scientific journals. He has been a full professor since 2001.

JUAN LUIS PÉREZ-CAMANYO graduated in Computer Sciences at Computer Science School of the Technical University of Madrid in 2000, and in 2005 he defended a PhD thesis related to operational modelling of the MM5-CMAQ system over the Internet. He has participated in more than 20 European and National private projects. He is Professor of Department of Computer Languages and Systems and Software Engineering of UPM.

Dr. Miguel Jiménez Gañán is Associate Professor and Head of Department of Computer Languages and Systems and Software Engineering of the Universidad Politécnica de Madrid, Spain. His research has focused on web and cloud technologies, with an emphasis on scalable asynchronous communication systems between applications. He has participated in six European projects, highlighting his work package coordination in "4CaaS: Building the PaaS Cloud of the Future."

71. Social Strategies for Smart Societies. Implementing Tiny Habits and Nudging

Dr. Shkelzen Hasanaj, Dr. Romina Gurash

ABSTRACT:

The article investigates the impact of minor daily habits and nudging in promoting sustainable behaviour in contemporary societies. Through a critical analysis of emerging technologies, such as the Internet of Things (IoT) and Artificial Intelligence (AI), the text assesses their potential in facilitating the transition towards overall sustainability. Through case studies and analysis of existing literature, it aims to outline how seemingly insignificant behavioural changes, but strategically supported by technological innovation, can contribute to the realisation of more resilient and eco-sustainable societies.

Shkelzen Hasanaj (Ph.D.) is a research fellow in Sociology at the Inequalities Laboratory of the Department of Social, Political and Cognitive Sciences, University of Siena. He is on the scientific editorial board of the journal "Rivista Trimestrale di Scienza dell'Amministrazione. Studi di teoria e ricerca sociale". He has been dealing with Balkan routes and migration policies in Albania for years; he has already published articles and essays on these topics.

Romina Gurashi, Ph.D., is Researcher in General Sociology (SPS/07) at the Università degli Studi Internazionali di Roma, Managing Editor of the Rivista Trimestrale di Scienza dell'Amministrazione. Studi di Teoria e Ricerca Sociale, Deputy Editor of the journal Studime Sociale/Social Studies; of the Albanian Institute of Sociology and the Albanian Sociological Association (ESA), she is member of the Board of the Research Network 36 - Sociology of Transformations: East and West while in Albania she is Vice President of the Albanian Sociological Association (ALBSA). In Italy she is member of the Board of the Sociological Theories and Social Transformations section of the Italian Sociological Association (AIS). In 2020, she was awarded the international Books for Peace Prize and, in 2019, the Paolo Dieci Prize for the best doctoral thesis on development cooperation by Fondazione Sapienza.

72. Assessing the Impact of Land Use/Land Cover change on Land Surface Temperatures and SUHI: Case of Pune, India

Sakshi Joshi, Dr. Manavvi Suneja

ABSTRACT:

The emergence of urban heat islands and rising land surface temperatures in developing countries like India is becoming a crucial concern for urban planners and policymakers. This study attempts to assess the impact of Land use and land cover (LULC) change on the Surface Urban Heat Islands (SUHI) in Pune, India using remote sensing and Geographic information systems (GIS). A spatiotemporal analysis of the Landsat satellite imagery from 2000 – 2023 has been used to trace the LULC trends and compute LST variations across the years in varied land cover types. The thermal band, 10 of the Operational Land Imager (OLI) and Thermal Infrared Sensor (TIRS), is used for computing LST. Spatial indicators such as normalized difference vegetation index (NDVI) and normalized differentiated built index (NDBI) are also computed. Results indicate that there has been a 30% decline in the vegetation across the city over the years, alongside an increase of 7.74°C in LST due to urbanization-induced LULC changes. Furthermore, this study attempts to identify the thermal hotspots in the city. The results of this study can enable the assessment of urbanization and the formulation of informed urban planning strategies to mitigate the negative impacts of SUHI.

Keywords: Land Surface Temperature, Pune, Remote Sensing, GIS, Local Climate Zone, SUHI

Ms. Sakshi Joshi is a research scholar at the Indian Institute of Technology, Roorkee. She has a Bachelor of Architecture from RTM, Nagpur University and a Masters in City Planning from the reputed Indian Institute of Technology, Kharagpur. Her background bridges design and urban planning. She has had experience in academia and research through a teaching opportunity at VNIT, Nagpur and assisting on a research project at SEEDS, New Delhi. She is currently working in the field of outdoor thermal comfort and investigates the impact of built environments on thermal comfort and walkability. Her work aims to create sustainable and pedestrian-centric environments in urban areas.

Dr. Manavvi Suneja is trained as an architect and specializes in landscape architecture. She is currently working as an Assistant Professor in the Department of Architecture & Planning at the Indian Institute of Technology, Roorkee. Dr. Manavvi is a recipient of the prestigious School of Planning & Architecture Gold Medal in Master of Landscape Architecture & numerous other awards. With nearly eleven years of professional experience to her credit, she has taught at premiere architecture schools in the country. She has enjoyed the opportunity to lecture for undergraduate and postgraduate subjects related to urban green infrastructure, climate change, landscape architecture, ecology and sustainable development. In addition, she has worked in practice on the landscape development of select parks and public spaces in a team as well as in an independent capacity. Dr. Manavvi is particularly interested in the applied side of her research which spans human biometeorology; green and blue infrastructure, nature-based solutions, cultural landscapes, ecological planning & conservation, children-friendly landscapes; environment behavior studies.

73. Co - creation approaches to improve conservation efforts of African Elephant Populations in Nigeria

Dr. Salamatu Fada, Dr. Taiwo Crossby Omotoriogun, Prof. Tajudeen Okekunle Amusa, Bello Danmallam, Solomon Panshak, Dr. Elijah Akintunde, Naziru Muhammad

ABSTRACT:

Recent findings from scientific sources and the IUCN reveal the decline in African Elephant populations, and new Redlist status for both the Forest and Savanah African Elephants. Several efforts are being made to improve conservation efforts of Forest and Savannah Elephants in Nigeria by engaging local communities of adjoining Protected Areas. This study investigates the willingness of adjourning local communities to co-create approaches that support elephants' conservation efforts. The study was carried out in two locations: Omo Forest Reserve, South - western, Nigeria and Yankari Game Reserve at the North-eastern Nigeria for forest and savannah Elephants respectively. Mixed methods of questionnaires, outreaches, and youth engagement were used to collect data. The data was analyzed using simple averages, chi-square, and t-tests. The study findings reveal that 95% of participants agree that elephants should be protected, 88% of the participants also agree that communities will benefit from elephant protection and 60% attribute the value of elephants to eco- tourism and 45% for revenue generation. In addition, 41% of the participants have experience in co-creation approaches for wildlife conservation. Overall, participants showed willingness and support to participate in elephant conservation efforts. Therefore, concerted efforts of co - creation approaches need to be further explored for sustainable elephant conservation efforts in Nigeria.

Dr Salamatu Fada is Research fellow in the School of Natural Sciences, Bangor University, UK. Founder of the Coalition for Biodiversity Conservationists of Nigeria (CBCN), dedicated for a collective creation of sustainable conservation interventions to protect and show case Nigerian Biodiversity. Work actively on Human - wildlife conflict/co-existence in Dadin Kowa, Nigeria and heavily involved in Climate action among other things.

Dr Taiwo Crossby Omotoriogun is a lecturer at Elizade University; Research fellow with the A. P. Leventis Ornithological Research, Nigeria; and Guest Research with the Natural History Museum University of Oslo, Norway. Founder of the Coalition for Biodiversity Conservationists of Nigeria (CBCN). Research in Conservation Biology and Associate Project Partner with the African BioGenome Project.

74. Italy's environmental concerns and quality life indicators compared

Dr. Sandra Lalli

ABSTRACT:

The multipurpose survey "Aspects of daily life", conducted by Italian National Institute for Statistics (ISTAT), yearly collect data about environmental concerns and quality life. An environmental concern analyses an individual's assessment of their environment, and they are no longer the exclusive domain of a few cities and activists, but have to become the continuing concerns of the people at large. However, they are often too specific to assess their direct impact on the individual's quality of life. A low level of satisfaction for aspects of life expresses concerns about economic conditions, health, social situation, but concerns over environment and life situations are different, because the first ones may be not real, people with a low quality life may be less concerned with environment than people with high quality life, for example. Other environmental indicators instead, as exposure to pollution, grime and noise, are closely related to the risk of poverty, bearing in mind that people at risk of poverty often live in areas characterized by environmental issues and that these issues may impact their quality of life by affecting their health and other life situations. Having made this necessary premise, economic crisis changed both environmental concerns and quality life. This research focus aims to compare environmental concerns with levels of quality life since 2013 up to 2023 and by some structural variables. Furthermore, clustering of time series allows an analysis of the phenomenon as a whole.

Keywords: environmental concerns, quality life, clustering of time series

Sandra Lalli is research technician at Istituto Nazionale di Statistica, Rome, Italy. Born in 1965, she has a degree in economics from Milan's Bocconi University and earned a PhD in Statistics from Pescara's D'Annunzio University. Research areas: sustainability and decline in births.

75. Social Entrepreneurship Development on Medicinal Plants – a case study on Sosunum FPC in Odisha, INDIA

Dr. Sanjay Bala, Nirab Bala

ABSTRACT:

Sosunum Farmer Producer Company (FPC) involve in cultivation, post-harvest management, primary processing, value addition and marketing of medicinal plants with a great cause to develop the society in several blocks of Mayurbhanj district of Indian state Odisha. One farmer, a former forester, started cultivation of medicinal plants especially lemongrass in 0.8 ha of fallow land in 2015 which gradually followed by others and the crop area spread exponentially, in 1295 ha area, with a common facility centre for primary processing of various medicinal crops especially lemongrass. The major driving forces for the success were - Tough leadership, Customized Technology, Skilled Manpower, Product mix and Social goal. The sale of medicinal plants products has increased sharply due to enhancement of post COVID-19 international demand. Sosunum has sold more than 16 tonnes of essential oils along with other medicinal plants products to the exporters in Mumbai, Kochin, Delhi and Chennai in last 2 years generated revenue of 20 million Indian Rupees. The whole hearted and dedicated efforts of farmers, innovative products and consisted effort of resource organizations helped Sosunum FPC to achieve a revolutionary success in medicinal plants entrepreneurship which is ultimately benefiting the society.

Keywords: Medicinal plants, Lemongrass, Leadership, Essential oils, Social goal, Entrepreneurship

Dr. Sanjay Bala, BE, PGDFM, PhD, is working as Assistant Professor in the faculty area of Ecosystem & Environment Management at Indian Institute of Forest Management, Bhopal, INDIA. He has more than 20 years of wide experience in ecosystem management, watershed management, socioeconomic development of forest fringe dwellers, sustainable development through promoting SHG & Microfinance, capacity building, SME development etc. He travelled across the length (Kashmir to Little Andaman) and breadth (Manipur to Gujarat) of India for research, consultancy and Monitoring & Evaluation for national & international forestry sector development projects including economic development. He has also gained specific knowledge on medicinal plants sector during his tenure as the 'Regional Director' of RCFC-ER, NMPB at Jadavpur University, Kolkata.

Mr. Nirab Bala, associated with Sosunum Farmers Producer Company (FPC) which is a social sector organization working in medicinal plants sector and engaged in development of rural farmers to increase the productivity of fallow land by cultivating medicinal plants. Alongside, he is engaged in value addition of medicinal plants by extraction of essential oils from lemongrass and other medicinal and aromatic plants. He is also engaged in marketing of various essential oils within the country and export organizations. His aim is to connect international buyers to export medicinal plants products directly so as to retrieve maximum benefits which would ultimately help the marginal farmers. He has the acumen to conduct action research to establish social entrepreneurship through SME development and to have international network through participation in reputed international conferences.

76. Mitigation of Distress Migration through Sustainable Governance and Livelihood

Dr. Sebastianus Lakra

ABSTRACT:

"Migration today is not a phenomenon limited to some areas of the planet. It affects all continents and is growing into a tragic situation of global proportions." In India, it took a pandemic lock-downs to understand how country relies on the migrant workers in building the nation and sustaining its economy. Covid-19 lock-downs proved without them, the country stood-standstill and exposed it's inadequate approach in dealing the problems of migrant workers. It is a challenge to accompany migrants in distress, in one hand; and on the other, the poor, vulnerable, and marginalized communities (ST, SC, OBC) in the source being as cheap labour supplying hubs. There is vague data of the migrant workers in the states/country. However, in Covid-19 lockdown, on the basis of migrants calls for help while stranded in the destination. Such calls showed of more than 28 Lakh interstate migrant stranded in different states. These migrants belonged to Chhatisgah, Jharkhand and Odisha. Even in the post lock-downs and post pandemic, the interstate migration continues voluminous for lack of sustainable strategies and policies in these migrant supplying states despite being their states rich in natural resource and being their areas protected constitutionally, viz. to Gram Sabha under PESA, 1996 for managing its resources customarily; entitlement for communities dwelling in forests under Forest Rights Acts, 2006; protection of land rights of indigenous groups under CNT Act, 1908 and SPT Act, 1949. The migrant workers' issues, challenge the stakeholders in accompanying, rescuing and counselling; while it is a need of the hour to strengthen and develop the local economy and livelihoods through local governance. This article reflects three forked approach in dealing the migrants issues. First, to attend the distress calls and accompany them through MAIN (a digital helpline system evolved by MLSC and fostered by Jesuit Conference of India; second, ensuring safe migration through skill training and registration of the migrants in E-shrum and shramadhan portals; and third, mitigation of migration through sustainable governance for forest and aggro- based livelihoods.

Keywords: distress migration, marginal communities, sustainable governance, livelihood, Gram Sabha, mitigation.

Sebastianus Lakra has degrees of MBA (RM) and PhD in humanities (Social Anthropology). He comes from an indigenous groups of Uraon tribe. Currently, he is head of the team, working for migrant workers. His few research articles have been published by national and international journals.

77. Redesign of a Dew and Rain Harvesting System based on Sustainable Considerations

Assoc. Prof. Serge Rohmer, Assoc. Prof Youcef BOUZIDI

ABSTRACT:

To ensure the transition towards a more sustainable society, new research and development strategies have to be developed to take into account socioeconomic and environmental considerations. In order to help designers to become more responsible, especially in developed countries, the example of companies in BoP countries that are subjected to heavy socioeconomic and environmental constraints can be a source of inspiration. This paper, therefore, investigates an engineering process aiming at a better redesign of products from a sustainable viewpoint. The novelty relies in an immersive approach so that the designer changes his posture, in particular, by playing the role of user. This provides a better understanding of sustainability, in particular through a qualitative approach to the frugality of the technological system under study. To support the proposition a case study details each step of the immersive reverse engineering process in relation to a dew and rain harvesting system

Serge Rohmer is a teacher-researcher at the Université de Technologie de Troyes in the InSyTE research team (Interdisciplinary research on Society-Technology-Environment interactions). He teaches courses on eco-design, value analysis under severe constraints and systems thinking for both engineering and Masters programmes at UTT. His professional travels in India and Africa over the past 10 years have given him a keen ability to analyse and understand our society and our production and consumption methods. Passionate about hands-on approaches, his immersive methods within a wide variety of communities (businesses, local authorities, civil society, etc.) give him a lucid and responsible view of the strategies dedicated to the transition towards strong sustainability. He pushes eco-design principles to the limit to explore new paradigms based on sobriety, frugal innovation and LowTech processes. Serge ROHMER is the founder of the AFRICATÉCH2030 association.

78. Examination of Water Use and Social Vulnerability: A comparison of Four Communities in Alachua County, Florida

Dr. Shirley Nelly Tandoh

ABSTRACT:

Introduction: It is projected that about 30% of the world's major cities will face severe water stress and urban drought from 2050 if climate change continues and has the anticipated effects (Florke et al, 2018). Socio-economic drought, meaning water shortage in urban life, can have significant effect on a city's inhabitants, including health and quality of life. Social and economic factors play an important role in planning and decision making of a society (Zhang et al, 2019). The analysis investigated the relationship between socio-economic factors and the use of potable water, its associated impact on aquifer recharge, and potentially identifying major factors influencing water demand and resource sustainability. **Method:** The Centers for Disease Control and Prevention's Social Vulnerability Index (SVI) and other measures were used for evaluating socio-economic factors. Yearly SVI on a census tract level for the specific years of the study and other socio-economic measures such as population, per capita income, poverty, and household size were used in the analysis. The analysis was performed on four communities in Alachua County, Florida; two at the west and two at the east of the county. Socio-economic measures and physical features were evaluated for communities in the four locations to evaluate whether there is a relationship between water use patterns, spatial characteristics of development such as percent impervious and runoff, and measures of SVI. Spatial and basic statistics was used for this analysis. **Result:** The western part of the county has had more intensive development recently compared to the eastern part of the county. The eastern communities have a high SVI and low potable water use per capita compared to the western communities. The number of households and population were the primary drivers of potable water use per census block. Percent impervious and runoff did not show any significant impact on a community's SVI. At the parcel level, statistically significant differences were found between communities. For example, potable water use per parcel was lower in communities with high social vulnerability index. **Conclusion:** The study concluded that different locations exhibited different behavioral patterns due to physical and socio-economic differences, which in turn affected their overall potable water and reclaimed water use, imperviousness, and runoff.

Keywords: Water Sustainability, Urban Water Management, Social Vulnerability Index, Socio-economic factors, potable water use, aquifer recharge, reclaimed water use, runoff, imperviousness

Dr. Shirley Nelly Tandoh is an Assistant Professor at the School of Built Environment. Shirley is in the Construction Management Department at Bowling Green State University. Shirley Tandoh has a Bachelor's degree in Architecture and a Master's and PhD in Construction Management from University of Florida. Her research interest is in sustainable construction, urban water sustainability, waste management, Lifecycle Assessment (LCA), construction safety and Building Information Modeling (BIM). Shirley is also a Project Management Professional (PMP).

Dr. Robert Ries is a Professor in the M.E. Rinker, Sr., School of Construction Management and Director of the Powell Center for Construction and the Environment at the University of Florida. Dr. Ries's research focus is Life Cycle Assessment (LCA) modeling including impact assessment of the built environment including uncertainty. Areas of interest are assessment of water in the built

environment including green roofs, alternative energy systems, materials, and construction methods, and improving prospective LCA modeling for design decision making.

Xiaoxun Jian is a Ph.D. student in Construction Management at the University of Florida, with a focus on integrating water management and water cycle variation within the built environment. He holds a Master of Science in Civil Engineering from the University of Florida, emphasizing water systems, and a Bachelor of Engineering in Water Science and Engineering from Beijing University of Civil Engineering and Architecture. Xiaoxun has practical experience in construction, water supply, and sewage treatment projects in China. His research interests include exploring the impact of development and construction activities on water cycle variations, aiming to develop sustainable construction practices that harmonize with environmental water cycles.

79. Firm Adaptation to Climate Change Disasters and its Impact on Community Resilience

Dr. Stavros Vourloumis, Dr. Ioannis Thanos, Assoc. Prof. Dr. Ilias Kapoutsis, Konstantinos Maragkogianni

ABSTRACT:

As firms around the world face increasing risks of climate disasters, such as floods, droughts, and wildfires, they need to make critical decisions on how they should cope with extreme events and contain their impacts. Despite advances in related literature strands, there are still unanswered questions regarding how firms experience natural disasters and manage them, and how their responses influence the resilience of communities. In this paper, we employ a processual sensemaking perspective to detail how firms formulate their responses to climate disasters, and why these responses vary in terms of building organizational resilience. Then, we devise a thought experiment (a fictional narrative of an extreme event) to theorize how firm adaptive actions mediate community adaptation and resilience, through their relational interactions with local actors - although with certain tensions. The paper advances knowledge of the mechanisms through which firms seek to cope with adversity from climate disasters, explaining why firm adaptation and responses vary and why organizational resilience may fluctuate across firms. We also highlight the resilience implications of firm responses and their interplay with communities and local ecosystems. Finally, we showcase how thought experiments can generate novel opportunities for actual inter-disciplinary inquiry on organizational and community resilience.

Keywords: climate change; disasters; resilience; sensemaking; corporate adaptation; narratives

Dr. Stavros Vourloumis received his Ph.D. degree in Strategic Management from the Athens University of Economics and Business in 2019 and is currently an Adjunct Lecturer and Post-Doctoral Research at the same University. He also holds a B.Sc. in Business Administration and an M.Sc. in Research in Economics by the Athens University of Economics and Business, as well as an M.Sc. in Research by the London School of Economics and Political Science. His research interests focus on strategic decision-making and business strategies, the role of managers and executives in shaping the structure, strategy and performance of firms, and on how structural socio-economic changes, such as digitalization and climate change, impact industries and firms. His work has been published in high-quality international academic journals, such as the *European Management Journal*, and has been presented in highly acclaimed international academic conferences, such as the Strategic Management Society Annual Conference and the Academy of Management Annual Meeting, receiving multiple awards and prizes for his research.

Dr. Ioannis Thanos is Assistant Professor of Management at the Athens University of Economics and Business in Greece. Previously, he worked in the UK as Senior Lecturer in Strategic Management and PhD Director at Lancaster University Management School, Lancaster University and as Lecturer in Management at the Adam Smith Business School, University of Glasgow. His research interests are in the areas of Management, Strategic Decision Making, Mergers and Acquisitions, and Small and Medium Enterprises (SMEs). He has published in leading international journals, edited volumes and books, while he has presented more than 30 papers at top international conferences. He has important experience as a trainer for companies and a speaker at conferences, and has delivered several workshops on Management, Strategic Management, Leadership and Change Management for organizations in multiple countries. Since June 2023, he is the Principal Investigator of the CLIMARESME research project, funded by the Hellenic Ministry of

Environment and Energy's Green Fund, and focusing on the building of resilience of SMEs vis-à-vis climate change impacts.

Dr. Ilias Kapoutsis is Associate Professor of Management at the Athens University of Economics and Business. He holds a Ph.D. in Management and a bachelor's degree in Business Administration from the same University, and an MSc in Business Information Technology from the University of Manchester. His current research interests focus on the motivations behind political behaviour at work, the logic that governs these motivations, and the checks and balances that guarantee success. He has co-authored 17 articles, 3 book chapters/monographs, and 32 conference papers, overall, and his research has been published in top refereed journals. He has served as the lead researcher on numerous research projects. The development of the Greek National Employment Strategy for 2021-2027 funded by the Greek Ministry of Labour, Social Insurance and Social Solidarity, is the most recent. Additionally, he took part in other research projects. A recent example is Strategic Planning Practices in the United Arab Emirates Public Sector (UAE National Research Fund).

Konstantinos Maragkogiannis is an environmental engineer and consultant, currently serving as a Policy Advisor at the Ministry of Economy and Finance in Greece. He holds a bachelor's degree in environmental engineering and an M.Sc. in Environmental and Sanitary Engineering from the Technical University of Crete in Greece, and an M.Sc. in Environmental Design and Engineering from the University College of London (UCL). He has worked as a management and sustainability consultant in the private sector, and as a Ministerial Advisor on Circular Economy and Sustainability at the Hellenic Ministry of Environment and Energy, and on Policy, Strategy and Funding at the Hellenic Ministry of Employment and Social Affairs.

80. Population Change, Environmental Pollution, and Food Security Nexus: A Synthesis for Addressing SDG-2 in Sub-Saharan Africa

Dr. Stephen Taiwo Onifade, Elvis Kwame Ofori, Dr. Bright Akwasi Gyamfi, Dr. Ernest Baba Ali, Dr. Samira Shayanmehr

ABSTRACT:

Global food security is increasingly threatened by climate change and marginalized populations in Sub-Sahara Africa (SSA) face high levels of vulnerability. Thus, given SSA's unparalleled demographic changes and increasing environmental pollution, we synthesize the connections between environmental degradation, population increase, and food security towards addressing the Sustainable Development Goal (SDG-2) of Zero Hunger. A three-phase analysis was conducted using – food production index, forest reserves, and agriculture value-added. Firstly, the impacts of demography trends and pollution levels on food security indicators were examined. Secondly, the environmental impacts of food security indicators were scrutinized, and a combined comparative analysis of countries' income groups was provided. Natural resource rents and renewable energy usage influences were also incorporated. A significant inverse relationship was observed between environmental pollution levels and food security indicators, while urbanization and population growth showed no significant positive impacts on agricultural value added especially among the lower-income SSA countries. Thus, reflecting the region's position as a large net exporter of raw materials and importer of finished products. Additionally, resource rents and renewables boost agricultural value-added, but significantly reduce the food production index and forest reserves. Overall, the observed impacts of the determinants on food security indicators vary across estimators vis-à-vis the lower- and middle-income groups of the SSA countries.

Keywords: SDG-2; Food security; Sub-Sahara Africa; Environmental Pollution; Population Growth

Stephen Taiwo Onifade is a teacher at the University of Vaasa, Finland. He also conducts research in the areas of Sustainable Development, Energy & Resource Economics. He is passionate about developmental issues in emerging economies and Africa; especially among sub-Saharan African countries. He has published several peer-reviewed scientific publications including articles and book chapters. Some of his research work have featured in leading journals including; Sustainable Development, Energy Economics, Journal of Cleaner Production, Environmental Impact Assessment Reviews, International Journal of Sustainable Development & World Ecology, Sustainable Energy Technologies & Assessment, Energy & Environment, and Journal of Economic Structures among others. He speaks English, Turkish, Yoruba, and recently hopes to add Finnish & Swedish to his spoken languages.

Elvis Kwame Ofori is a researcher at the Department of Plants and Agribioscience, University of Galway, Ireland

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Dr Ernest Baba Ali is a researcher at the Department of Environmental Economics, University of Development Studies, Ghana

Dr Samira Shayanmehr is a researcher at the Department of agricultural economics, Ferdowsi University of Mashhad, Iran.

81. Sustainable Development Priorities in Amazonian Communities: Balancing Educational Investments with Immediate Needs

Sullivan Padgett, Jake Gera, Mia Rose Adao, Pablo Sanchez

ABSTRACT:

Community-driven priorities are crucial to the effectiveness of sustainable development projects. This study was conducted in August 2023 in the indigenous Shuar community of Yunkuankas, Morona Santiago, Ecuador. We aimed to gain an understanding of the community's priorities to support a sustainable development project in Yunkuankas. Our framework sought to identify practical strategies for sustainable development, focusing on community perspectives and guided by the sustainable livelihoods model. During this study's exploration and context-setting phase, we became aware of the diverse interests, interpretations, and visions surrounding sustainable development in Yunkuankas, including education-centered strategies. The data collection methods involved qualitative individual interviews and focus groups. Among other priorities, community members shared their desire to improve the educational opportunities available for children. They emphasized practical learning to develop relevant technical skills within Yunkuankas. The community unanimously voted to invest in the local high school's biology laboratory to offer hands-on scientific education. However, this study uncovered tensions between strategies focused on long-term investments and those addressing the community's immediate needs. The research aims to highlight a case study emphasizing the significance of community consultation in recognizing and addressing local needs while balancing immediate and long-term sustainable development priorities.

Keywords: Educational Investments, Immediate Needs, Sustainable Development Priorities, Rural Communities

- Mr. Sullivan Padgett** is a graduate of St. John's University in Queens, New York, USA, where he was an Ozanam Scholar. He majored in Government and Politics with a minor in Social Justice Theory. He is currently pursuing his master's degree in Comparative Politics and International Relations at St. John's University. His previous research has appeared in the Journal of Global Awareness and other outlets.
- Mr. Jake Gera** is a senior at St. John's University in Queens, New York, USA, where he is an Ozanam Scholar. He majors in Biology with minors in Social Justice Theory and Chemistry. He conducts biochemical research on Lyme disease vaccine candidates and pursued environmental sustainability fieldwork in Lares, Puerto Rico.
- Ms. Mia Rose Adao** is a senior at St. John's University in Queens, New York, USA, where she is an Ozanam Scholar. She majors in fashion studies with a minor in Social Justice Theory. She conducts socioenvironmental research on the interrelations of the fashion industry that are impacted by racial and gender biases and climate change. Her previous work as a stylist assistant has appeared in publications such as Vogue and the Netflix series "The Exchange."
- Mr. Pablo Sanchez** is a data specialist with over five years of experience in international development and applied research. He is the Associate Director of Data & Analytics for The Hunger Project. Before that, he was a Senior Researcher for the Vincentian Institute for Social Action and completed a Fulbright Fellowship in Minas Gerais, Brazil. He received his B.A. and M.A. in Sociology and M.S. in Data Science from St. John's University in Queens, NY, USA, where he was an Ozanam Scholar.

82. Sustainable Management of *Eichornia crassipes* Through Value Addition and Community Participation – Case study of Anegundy , India

Sushmita Krishnan

ABSTRACT:

Eichornia crassipes, commonly called as water hyacinth is an aquatic weed that invades wetlands. They form a dense mat on the surface of water and prevent the entry of sunlight. This results in reduced amount of oxygen in water , resulting in poor water quality , reduced aquatic biodiversity and economic loss. A comprehensive literature review is conducted to study the prevalence of craft making using water hyacinth. This case study is conducted in Anegundy , Karnataka, India where the women are trained to make crafts from dried water hyacinth stems. This empowers them economically and in turn engages the community in managing the menace caused by water hyacinth. The women are interviewed to record experiences and perceptions of the craft making using water hyacinth.

Keywords: Invasive species management , community participation , rural economy and women empowerment

Sushmita Krishnan is an ecologist working in Environmental Sustainability from India . She is an ardent writer and a sustainability enthusiast as early as 12 years of age from her stint at Montfort School , Trichy. She pursued her Masters in Life Sciences from Bharathidasan University, Trichy , India. She has conducted research in prestigious institutes like the University of Hamburg, Indian Institute of Sciences and the National Center for Biological Sciences. She worked with UNESCO as an Individual Specialist to design a game on Sustainable cities. She worked on a storytelling project with the Girl Rising Company, New York to narrate the experiences of women in Anegundy engaged in water hyacinth craft making. Currently , she is a researcher at the International Sustainability Academy , Hamburg working on utilizing water hyacinth pulp to make value added products like paper and sanitary products.

83. Sustainable Urbanism in an African Context: Health Risks of Soil and Road Dust, and Phytoremediation

Dr. Sutapa Adhikari, Ricart Boneschans, Dr. Madeleen Struwig, Dr. João Silva

ABSTRACT:

Planning urban greenery must serve the dual purpose of maximising pollution mitigation and minimising associated human health consequences to achieve environmentally sustainable urbanism. This comprehensive study investigated (1) ICP-MS determined elemental profiles of unwashed (UWL) and washed leaves (WL) of fifteen cultivated ornamental plants (of which traditional medicinal and food values were recorded for eight species) near busy urban roads in Mafikeng, South Africa to evaluate their pollution mitigation prospects, and, (2) XRF detected elemental levels in surface soil and road dust to assess human health risks using US EPA models for adults and children, considering ingestion and dermal contact in residential areas. For several elements, significantly higher ($p < 0.05$) concentrations were determined in UWL than in WL, and considerable accumulation in WL was observed. Compared to FAO/WHO permissible levels, higher concentrations of multiple elements in WL of the eight useful plants underlined potential health implications to consumers. For children, health risks of As and Pb through ingestion of both investigated media could be concerning. Therefore, due to the easy accessibility of contaminated plants in public spaces, potential risks of element accumulation in useful parts should be considered duly alongside the phytoremediation properties when selecting plants for urban greenery.

Keywords: Arsenic, cancer risk, lead, non-carcinogenic risk, pollution

Dr. Sutapa Adhikari is a Postdoctoral Research Fellow at the Botany Department, under the Biodiversity and Conservation Ecology subprogram of the research entity Unit for Environmental Sciences and Management, North-West University, South Africa. She investigates various aspects of environmental toxicology, plant-soil-dust interactions in polluted urban environments, the impact of climate change on the distribution of plant species, and lichen diversity in Southern Africa. One of her research papers is linked to the United Nations Sustainable Development Goals.

Mr. Ricart Boneschans is a Lecturer in Geology and a member of the Earth System Sciences, Soils and Resources subprogram of the research entity Unit for Environmental Sciences and Management, North-West University, South Africa. His research focuses on petrology and geochemistry of ultramafic and mafic intrusions, applied mineralogy, and plant-soil-trace metal associations.

Dr. Madeleen Struwig is a Senior Lecturer and Deputy Subject Chair at the Botany Department, North-West University, South Africa. Her research interest is plant taxonomy.

Dr. João Silva is an Extraordinary Senior Lecturer at the North-West University, South Africa. He is part of the Geoecology research group, where he studies the trophic transfer of potentially toxic elements in both natural and man-made enriched environments.

84. Association between community residents' interest and willingness of participation in sustainable community development

Dr. Takehiro Hatakeyama, Prof. Rumi Yatagawa, Prof. Hideaki Kurishima

ABSTRACT:

The "Co-JUNKAN platform" project, in which local administrations, academics, industries, and community residents collaborate to co-create a vision for "a sustainable future community," implements co-learning between academics and community residents. In this context it is of importance to understand interest in sustainable community development (SCD) operationalized by companies and universities that whether community residents show is related to their willingness to participate in dialogue with the local people and stakeholders, to collaborate with experts, and to learn about a decarbonized society. To this end we conducted a questionnaire survey to 1,220 households in Nishinoomote city, located on Tanegashima Island, Japan. As a result, we observed a statistically significant trend that community residents having interest in SCD clearly show willingness for dialogue with diverse people and actors (74.9% and 73% respectively), collaboration (91%), and learning (82%) towards a decarbonized society ($p < .001$). Conversely, those who express no interest in SCD tend to also show no willingness for dialogue and learning. Nevertheless, they have somewhat high interest in collaboration for a decarbonized society (63%). Our findings imply that providing incentives to the 'uninterested group' may foster further joint efforts.

Keywords: Sustainability transition; citizen participation; co-learning; decarbonization; community; Japan

Dr. Takehiro Hatakeyama is a research assistant professor in the Research Center for Regional Co-creation Basis (ReCoBa) at the Shibaura Institute of Technology. His expertise is sustainability science, with a focus on evaluating sustainability policy and the performance of local governments and developing relevant indicators. He earned a Dr. Phil. in sustainability science from Leuphana University of Lüneburg in Germany in 2022. Currently, he engages in a "Co-JUNKAN" project where he seeks to develop a method of co-learning to jointly envision and realize the sustainable development of a local community among academics, practitioners, and community residents. In the project, he is also responsible for the project evaluation.

Prof. Rumi Yatagawa has been working for the Faculty of Engineering at the Shibaura Institute of Technology since 2013. As a professor at the institute, she is involved in mentoring university students who are seeking to obtain teaching qualifications for junior and senior high schools. She received her PhD in education from the Graduate School of Human Sciences at Sophia University. Her specialty is "sociology of education," and her recent interest is centered on "career education for developing local human resources," which combines the creation of sustainable local communities with the careers of young people.

Prof. Hideaki Kurishima is a director of Research Center for Regional Co-creation Basis at the Shibaura Institute of Technology, specializing in sustainable science and urban social geography. He is the leader of a research theme within the "Co-JUNKAN" project to build a co-learning platform between local communities and academics. He received his Ph.D. from the University of Tsukuba in 2003, and from 2003 to 2007 he was a researcher of Life-Cycle Assessment research center at National Institute of Advanced Industrial Science and Technology, Japan. He transferred to the Shibaura Institute of Technology in 2007 and has been a professor in the School of Engineering and School of Architecture since 2016. His current interests lie in the methodological development for

co-learning of local residents, researchers and engineers, program development of education for sustainable development, prospective life-cycle management of de-carbonized systems.

85. Dollars and Sense; Reviewing Industry Implementation of the Climate-Related Disclosures Mandate in New Zealand

Tess Hazelhurst PhDc, Dr Jeff Foote, Chuck Norris

ABSTRACT:

The global commitment to sustainable development has catalysed the climate policy environment and its concurrent multiverse of non-financial reporting frameworks. One such framework, the TCFD (Task Force on Climate-Related Financial Disclosures) is dependent on assumptions that organisation's view risk management the same way as the legislation's intent; prioritising the decarbonisation pathway. The purpose of non-financial reporting is to challenge the existing business-as-usual values of profit-seeking. This study employs a novel approach (Critical Systems Heuristics) to uncover the issues that arise as a result of organisations implementing the TCFD, as demonstrated by their risk management process. The key findings of this study show that organisations are primarily motivated by financial growth which directly competes with the intentions of the TCFD. The conflict articulated within this paper demonstrates that mandating the TCFD fails to address the tensions between organisations business-as-usual business models and the regulatory pressure decreeing the decarbonisation pathway. The findings presented raise concerns about the TCFD's potential effectiveness; unchanged risk management processes risk a continuation of existent best practice leading to status quo outcomes.

Keywords: Non-financial reporting, sustainable development, systems thinking, climate risk, risk management

Tess Hazelhurst is a first-year PhD Researcher at Ulster University Business School in the area of strategic management and sustainable innovation, specifically applying a social science lens to non-financial reporting. She completed her Masters in Sustainable Business at Otago University in New Zealand. Her research work has focused on the TCFD framework, effectiveness evaluation of the climate-related disclosure regime, and discourse analysis on changing language in NZ's mission-led science space. Tess worked in industry for five years as a marketing and events coordinator. She is thrilled by conversations around political ecology, social sustainability, and systems thinking.

Dr Jeff Foote teaches operations management, social responsibility and systems thinking at Otago University in New Zealand. Jeff's research focuses on developing systemic and participative methods to address 'wicked problems' in areas such as healthcare quality, sexual violence prevention, performance management and freshwater management. He is an applied researcher focusing on interdisciplinary and bicultural research. Jeff has undertaken research and evaluation projects for central and local government, non-government organisations, business and hāpu. Jeff is an active member of Te Maa: Māori Economy and Enterprise Network.

Chuck Norris is a strategic leader with 30 years of success combining financial acumen and progressive leadership in a variety of complex business functions. Chuck has expertise in senior management, engineering, health & safety, process safety, transformational change, global consulting, and deep continuous improvements as demonstrated through his extensive international placements. Presently he is the Global Risk Manager for Fonterra in New Zealand. Chuck holds a Master of Business Administration from Adelaide University, Post Graduate Research from UNSW, and is currently completing his Doctorate at Otago University researching complexity, risk, and the use of the systems approaches

86. The Role of Applied Eudaimonist Virtue Ethics in Degrowth for a Sustainable Future

Dr. Theodoros Semertzidis

ABSTRACT:

Today's economic and political thinking and practice are predominantly based on utilitarian thinking. At the same time, we are facing serious environmental issues coupled with ever growing political unrest and social inequality (both within countries and between countries). Consequently, it is evident that we require new paradigms to achieve sustainability. One such paradigm is degrowth. The safe and just space framework could be a practical implementation for degrowth. It has been frequently cited in postgrowth literature that we require eudaimonic wellbeing; however, not much thought has been given to what this means practically. The idea of this paper is to analyse what eudaimonic life means by presenting findings from works on virtue ethics by Aristotle, Plato, and Confucius. What an eudaimonic life means will be described, although such a description alone is not enough since it cannot be used practically in policymaking. Defining the socioeconomic conditions to achieve an eudaimonic life, however, should give a good indication of where our efforts need to concentrate, and can provide a basis for policymaking. Hence, this paper will contribute to advancing knowledge by setting a basis for the practical implementation of degrowth, which in turn is promoting true sustainability.

Keywords: Degrowth, wellbeing, planetary boundaries, virtue ethics, philosophy

Dr Theodoros Semertzidis is a Marie Skłodowska-Curie Fellow at Universitat Autònoma de Barcelona. His research project is titled: "Tackling the paradox of growth and sustainability - A SDG indicator framework for water, energy, land, and materials based on postgrowth and resource nexus thinking". The project is interdisciplinary and based on degrowth thinking to introduce improved indicators to assist with more sustainable policy making. Theo previously (2020-2023) worked as a Lecturer at University College London, where he also obtained his PhD in "Sustainable Resources and Modelling" in 2019. He has a MSc in Urban Regeneration (University College London), a MSc in Environmental Engineering (University of Manchester), and a BEng in Civil Engineering (University of Salford). His research interests include: degrowth, postgrowth, unequal exchange, planetary boundaries, wellbeing, sustainable resources, resource nexus, virtue ethics.

87. Circular Economy Through Recovery of Waste Loss in Banana Production: Case in Hung Yen, Vietnam

Dr. Duong Thi Tinh, Dr. Le Thuy Huong

ABSTRACT:

This study analyzed the effects of circular economy (CE) approach on banana production in Hung Yen province, Vietnam and introduced a proposal to recover banana waste loss through processing of organic fertilizer. Data collection was implemented in Hung Yen province which is one of the largest banana cultivating area in Vietnam. 2.170 banana farms were trained about circular economy (CE) approach through producing microbial organic fertilizer from banana tree by-products. Banana farms' yield, product quality, and economic value before and after applying CE approach were compared to analyze the effect of the approach. After applying CE on banana production, economic value per hectare increased 1.6 times (from 328.050.000 VND to 524.880.000 VND). Yield and quality of banana products were improved due to organic fertilizer from by products. Results suggest that implementing circular economy brings consistent benefits to Vietnamese banana farmers in terms of higher profitability, lower cost of capital, and waste loss recovery. These findings encouraged Vietnamese banana farmers to direct investments toward CE implementation to develop green banana production and contribute to environmental protection and combat climate change.

Keywords: Banana production, banana waste loss, circular economy

Dr. Duong Thi Tinh is Professor in Faculty of Economics, Thai Nguyen Province, Vietnam. Head of research group on Economic of Vietnam.

Dr. Le Thuy Huong is Professor in Faculty Marketing, Hanoi, Vietnam. Member of research group on Sustainable Economic of Vietnam.

88. A New Technology-Based Tool for Building Profitable Biodiversity-Conserving Offerings

Assoc. Prof. Dr. Timothy C. Haas

ABSTRACT:

Biodiversity conservation is an essential but too-frequently overlooked dimension of environmental sustainability. Most endangered species live in developing countries. In these countries, sustainable development projects need to leverage efforts to protect biodiversity rather than being at cross-purposes with them. To these ends, this presentation describes a business strategy wherein firms launch profitable business lines, called biodiversity offerings that harness market forces to fund projects that result in the enhancement of biodiversity. The gulf between customer interactions with such offerings and the conservation of a particular species is bridged with technology. First, technological tools are developed to build a profitable and biodiversity-enhancing offering via agent-based models of business networks that span consumer countries and those countries that host the managed species. These models are coupled to an individual-based model of the managed species and are optimized for profitability through the use of new optimization algorithms. Then, customer loyalty to the offering is maintained through a new technology called a biodiversity dashboard. These web-based dashboards display in real-time, monitoring data on the offering's impact on a managed species. This gives customers a way to assess what effects their individual purchases are having on biodiversity. The biodiversity dashboard is fed with real-time data on species abundance using remote-sensing technologies. As an example, this tool is applied to the conservation of rhinoceroses in South Africa. Specifically, a set of agent-based models are programmed to dynamically model several firms interacting with each other to form a business network that employs would-be poachers to manufacture furniture in Johannesburg that is exported to the developed world. Such employment reduces the inclination of these workers to poach rhinos. Output from these interacting models is shown and the general purpose tool used to build them is described.

Keywords: biodiversity conservation, sustainable business models, socio-ecological systems, agent-based modeling, rhinoceros poaching

Timothy C. Haas earned a Ph.D. in Statistics from Colorado State University in 1989, served as an acting assistant professor in the Statistics department at the University of Washington during 1989-1990, and, apart from sabbaticals at the National Center for Atmospheric Research during 1999 and Stanford's department of statistics during 2006-2007, has been at the Lubar School of Business, University of Wisconsin-Milwaukee since 1990. Associate professor Haas has developed semi-parametric methods for prediction of nonstationary spatio-temporal processes, algorithms for the redesign of monitoring networks, Bayesian network models of aspen stand survival, forestry ranger decision making, and integrated, agent-based models of human-wildlife conflict. Support for these endeavors has come from grants awarded by the United States Department of Agriculture, the United States Environmental Protection Agency, and the World Wildlife Fund. This work has been published in the Journal of the American Statistical Association, Forest Science, Atmospheric Environment, Environmetrics, AI Applications, Stochastic Environmental Research and Risk Assessment, Security Informatics, IEEE Transactions on Cybernetics, Ecological Applications, PLoS One, Frontiers in Conservation Science, the Journal of Cybersecurity, and Cogent Social Sciences. Associate professor Haas has published two books with Wiley on ecosystem management.

89. Assessing Gender Responsiveness in Climate Policies of Da Nang City, Vietnam

Trang Le, Prof. Izuru Saizen

ABSTRACT:

This research aims to assess the gender responsiveness of climate policies in Da Nang City, Vietnam, a rapidly urbanising coastal city vulnerable to climate change impacts such as natural disasters, coastal erosion, and the high likelihood of rising sea levels. This study explores how well these policies integrate gender considerations, addressing the unique needs and vulnerabilities of different genders in these environmental challenges. A qualitative methodology comprised a comprehensive policy review and in-depth interviews with key stakeholders, including policymakers, gender experts, and community leaders. The policy review examines existing climate-related documents for gender-specific language and initiatives. Interviews provide insights into the practical implications and perceived effectiveness of these policies from a gender perspective. Preliminary findings indicate that Da Nang's climate policies lack comprehensive gender-responsive measures. This gap highlights the critical need to integrate gender perspectives to ensure equitable and effective climate action. This study contributes to understanding gender inclusivity in local climate strategies and underscores further research and policy development in this area. It provides a baseline understanding of gender responsiveness in Da Nang's climate policies and offers insights for future studies and policy interventions.

Keywords: Gender-responsive, gender consideration, climate policies, Da Nang City, coastal city

Ms. Trang Le is a Master's student at the Graduate School of Global Environmental Studies, Kyoto University.

Her research interests are climate change, sustainable development and gender mainstreaming. Prior to pursuing her studies in Japan, Ms. Le was in charge of international cooperation projects centred on climate change and coastal management in her hometown of Da Nang, Vietnam. She aspires to leverage her academic training and cross-cultural experiences to further advance her work upon returning home. She is driven by a commitment to applying her newfound knowledge and skills to contribute meaningfully to the ongoing challenges facing her city and beyond.

Professor Izuru Saizen serves as the Vice Dean and Professor at the Graduate School of Global Environmental Studies, Kyoto University, Japan. Leading the Laboratory of Regional Planning, he specialises in sustainable rural development within mountainous regions of Japan and Southeast Asian countries. Professor Saizen's research focuses on leveraging local resources for development, minimising reliance on external investments, and collaborating with local communities to restore and enhance livelihoods. Actively engaged in field surveys across Asia, including Indonesia, Vietnam, Laos, Cambodia, and others, he seeks to uncover commonalities in human-nature interactions across diverse contexts. Utilising advanced technologies like GIS, he conducts comprehensive analyses of geographic information. Beyond academic pursuits, Professor Saizen is dedicated to problem-solving research aimed at addressing real-world challenges.

90. The impact of female CEOs on corporate green development: evidence from biopharmaceutical industry in China

Xinyi Tian, Xiaorou Zhen, Prof. Uchenna Cyril Eze

ABSTRACT:

This research examines the impact of female CEOs on corporate green development within 267 biopharmaceutical firms listed on China's A-share market from 2000-2022. The biopharmaceutical industry faces unique challenges, such as resource wastage and complex pollution components, which require effective management. To offer a holistic view of female CEO's role in corporate green development, this research uses the Three-Circle Model, instead of ESG and CSR models. This model can clearly analyze the symbiosis and interactivity of three systems from the whole to the local, and better measure the role of female CEOs on corporate green development. This research collects and measures percentage of female CEOs in Chinese biopharmaceutical firms, environmental investment, green innovation, relative power of board of directors and other indicators. Ultimately, this research finds compelling evidence suggesting that female CEOs are more inclined towards making environmentally friendly decisions compared to their male counterparts. In addition, this study provides many suggestions for future research, the most important is the handling of time lag issues when analyzing variables of green development in corporates. This also has a certain reference value for variable selection in future research.

Keywords: Corporate green development, Female CEOs, Biopharmaceutical industry, Chinese listed firms, Board of directors, Three-Circle Model

Ms. Xinyi Tian is an undergraduate at Beijing Normal University-Hong Kong Baptist University United International College, majoring in accounting. She plans to pursue a master's degree in management, focusing on accounting and finance. She has a strong interest in economic and environmental sustainability. She participated in the HKICPA Business Case Competitions 2022, conducting studies in the biopharmaceutical industry and achieving a Top 8 national rank. Additionally, she performed financial and ESG analyses in the CFA Research Challenge 2023. She has also taken part in numerous auditing projects, particularly within the biopharmaceutical industry, including a Hong Kong listed hospital corporation. Her future research yield is economic sustainability, corporate green development and green investment in the biopharmaceutical industry.

Ms. Xiaorou Zhen is an undergraduate student from Beijing Normal University-Hong Kong Baptist University United International College majoring in accounting. She will earn her master's degree in accounting and finance analytics from School of accounting and finance at The Hong Kong Polytechnic University. Educated in an institute using English as a medium of instruction and committed to whole person education, Xiaorou achieved bilingual proficiency and academic excellence as well as acquiring knowledge and skills. She has interned at McDonald as a digital financial intern and BDO China Shu Lun Pan CPAs as an auditor. The internship experience gave her an in-depth understanding of the capital market and the management and operation of listed companies. Having participated in the 2023 L'Oréal Brandstorm Competition, Xiaorou and her team won the Top 50 prize. Her research interests lie in ESG, ESG disclosure, corporate governance, environmental management, and medical business.

Uchenna Cyril Eze earned his PhD from Nanyang Technological University (NTU), Singapore. He is currently an Associate Professor at BMU-HKBU, United International College (UIC). Before joining UIC, he worked at Multimedia University, Malaysia, where he served as the coordinator of Business and Knowledge Management Programme. He also served as the Chairperson of eServices, Entrepreneurship, and Marketing (CeSEM) at Multimedia University, Malaysia. Later, he joined Monash University, Malaysia where he became the Chairperson of Staff Development Committee for the School of Business. On research, he has a soundtrack record of research including securing national and international grants. He has published numerous peer-reviewed papers in international journals such as AJIS, JGITM, and Asia Pacific Journal of Marketing and Logistics, and has articles in international conference proceedings some of which won awards for Outstanding and Distinguished Papers. His research interests include KM, e-business applications, SMEs, sustainable business, and mindful consumption.

91. The Legacy of Mining and Sustainable Development: Are We at a Crossroads?

Dr. Uswatun Hasanah

ABSTRACT:

The mining industry appears to be at the crossroads regarding sustainable development path. According to John Elkington and Richard Sandbrook, besides harmonizing economic, social, and environmental aspects, the concept of sustainable development includes governance and multi-generational issues. However, heating global demand for mining particularly critical mineral, is pushing the industry to the edge of sustainability. Despite the fact that industrialized and developing countries have similar goals for sustainable development, they seem to compete. Is the growing nickel market beneficial to the sustainable development goals of emerging economies? Because nickel market is driven by demand of its key industries such as electric vehicle, the sustainability of electric car industry influences nickel mining. Furthermore, the government's political views influence the regulation both in electric vehicle and renewable energy. In short, this paper aims to examine the concept of sustainable development and how it is applied in the mining industry and show the unbalance views on sustainable development in developed and developing countries.

Keywords: Mining legacy; critical mineral; sustainable development; emerging countries; regulation

Dr. Uswatun Hasanah is an Assistant Professor in the Department of Economics, Universitas Indonesia (FEB UI). She received her doctorate from the Department of Economics, Law, and Institutions at the University of Rome "Tor Vergata," Italy 2018. She participated in the Visiting Doctoral Program at the Industry, Energy, and Environmental Economics Programme, University of Vienna 2013. The ASEAN University Alliance Scholar Award (AUASA) Program 2019-2020 has awarded her as a Visiting Research Fellow at the Graduate School of Public Policy (GraSPP), the University of Tokyo. Her research focuses on energy governance, geopolitics, essential minerals, just transition, and economic development. Among others, she conducted some research in collaboration with the National Electricity Company (PLN). In addition to Bahasa, she speaks English, and modest Italian, and German.

92. NGO Committee on Sustainable Development at the UN in Vienna - Sustainable Development on an International Level

Dr. Wolfgang Beiglboeck, Dr. Ingeborg Geyer, Dr. Barbara Hartl

ABSTRACT:

The intention of this presentation is to introduce the work of the NGO Committee on Sustainable Development at the United Nations Office in Vienna and what opportunities the United Nations offers for NGOs to promote Sustainable Development. The committee on the one hand provides a forum for NGOs interested in these issues for discussing and analyzing the work of the intergovernmental bodies in the field of sustainable development and of Vienna-based UN organizations like the UNOCD or the UNIDO. On the other hand, it encourages new initiatives and tries to increase the influence of civil society's work to the 17 Sustainable Development Goal adopted by the United Nations in 2015. Therefore, the focus of this committee is not only on environmental sustainability, but also on economic and socio-cultural sustainability.

Keywords: NGO committee on sustainable development, Sustainable Development Goals United Nations, Possibilities for Civil Society

Dr Wolfgang Beiglboeck is a health and clinical psychologist and teaches at the medical university Vienna and at psychological departments of universities in Vienna and Ljubljana. He authored more than 120 scientific publications (articles and book contributions, editor and author of several books, editor of professional journals). He represents the IAAP - the International Association of Applied Psychology, an NGO accredited by the Economic and Social Council of the United Nations - in the Committee on Sustainable Development of the United Nations in Vienna (UNOV). The Committee focuses on the environmental, social and economic dimensions of sustainable development. It provides a forum for NGOs interested in discussing and analyzing the work of UN intergovernmental bodies in the field of sustainable development and the related activities of Vienna-based UN organizations. It encourages new initiatives and seeks contributions from civil society to the 17 Sustainable Development Goals adopted by the United Nations in September 2015.

Dr. Ingeborg Geyer, Chair of the NGO Committee on Sustainable Development 2020 -2024 Zonta International Representative at UN Vienna, Chair of the NGO Committee on Sustainable Development 2020 -2024 Ms. Ingeborg Geyer has been a member of Zonta since 1985 and served on the Zonta International Board of Directors. She has been an active member of a number of civic and professional organizations and represents ZONTA at the UN in Vienna since 2002 in various committees and functions as board member. Professionally, Ms. Geyer has been the Head of the Department for the Lexicons of Austrian Dialects and Names of the Austrian Academy of Sciences from 2003 - 2012 and has served as chief editor of the Lexicon of Austrian-Bavarian Dialects until 2015.

Barbara Hartl studied psychology and sociology at the University of Vienna and holds a doctorate in business psychology. In her research at the Vienna University of Economics and Business, she deals with questions of consumer psychology, in particular sustainable consumption and prosocial behavior. She also is also a researcher in the research group on behavioral economics at the Institute of Advanced Studies in Austria. Her work has been published in renowned international journals such as Journal of Business Research, Psychology & Marketing and Journal of Cleaner Production.

93. The Relationship between Financial Sustainability and Performance of Higher Education Institutions: Türkiye Case

Assoc. Prof. Dr. Yasemin Ertan, Prof. Dr. Aylin POROY ARSOY, Assoc. Prof. Dr. Elif Yucel

ABSTRACT:

Higher education institutions (HEIs) play a pivotal role in promoting sustainability through educational activities, training students on sustainability concepts and fostering sustainable practices. They also contribute to sustainability through research and development activities to create sustainable technologies and collaborate with other universities, industry organisations, and non-governmental organisations to solve sustainability challenges effectively. HEIs, whose impact on society is far-reaching and significant in terms of sustainability, need to ensure that their activities, like all other organisations, are socially, environmentally and financially sustainable. While existing literature extensively explores HEIs' current situations and contributions to social and environmental sustainability, studies focusing on their financial sustainability are scarce. This study aims to assess the financial sustainability of public universities in Türkiye, exploring the relationship between their financial sustainability and the quality of teaching and research. The financial sustainability will be evaluated using data from the universities' financial statements, while teaching and research quality will be gauged using scores published by Times Higher Education. The findings will underscore the significance of financial sustainability for higher education institutions in fulfilling their foundational objectives. Acknowledgement: This study is supported by SDS4HEI project (2022-1-DE01-KA220-HED-000088936) which is funded by the Erasmus+ Program of the European Union. However, European Commission and German National Agency cannot be held responsible for any use which may be made of the information contained therein.

Keywords: Financial sustainability, higher education institutions, performance

Dr. Yasemin Ertan is Assoc. Prof. in Bursa Uludağ University. She received her PhD in 2011. She has been teaching bachelor, master and PhD degrees in financial accounting, financial statement analysis, and independent audit at Bursa Uludağ University since 2014. She has several academic studies, on sustainability, financial performance and audit. Also, she has taken part in many projects funded by the European Union and is very experienced in executing projects.

Dr. Aylin POROY ARSOY is a Professor at Bursa Uludağ University Faculty of Economics and Administrative Sciences. She has conducted cross-cultural studies with different parties and has several academic studies, mainly on financial reporting, transparency, and corporate governance. She has been teaching bachelor, master and, PhD degrees in financial accounting, international accounting, integrated reporting, and corporate governance since 2008. Also, she has taken part in many projects funded by the European Union and is very experienced in executing projects.

Assoc. Prof. Elif Yucel graduated from BUU FEAS Business Administration Department in 2005 and began to work same department as research assistant in 2006. She received her PhD in 2011 and she has been lecturing in bachelor, and master degrees on business administration since 2014. She has several academic studies, on sustainability, environmental accounting, corporate reporting, integrated reporting and detecting fraudulent financial reporting. Also she has taken part in many projects funded by European Union and she is very experienced in executing projects.

94. Which Factors Facilitate Female Employment in the Egyptian Public Sector?

Dr. Zein Kasrin

ABSTRACT:

Despite over two decades of structural reforms which shrank public sector employment openings in Egypt, two thirds of female employment in 2018 was in the public sector. In addition to a minimum level of education needed for a government job, the employment of family members in the public sector can be a major employment facilitator. In this study, I use a random effect model to examine the extent to which human capital as well as family employment can facilitate female employment in the public sector over time. The data source is the Egypt Labor Market Panel Survey, a nationally representative survey, where I use its three waves of 2006, 2012 and 2018. I also assess regional heterogeneity between the more developed metropolitan regions and the less developed and more conservative regions. I find that higher human capital as well as parents' employment in the public sector have a significantly positive influence on females' employment in the public sector in both regions. For married females, having a husband employed in the public sector increases her likelihood of becoming a public sector employee. These results emphasize the high importance of family networks for government employment success in Egypt.

Keywords: Female employment, Egypt, rural urban divide, public sector employment, random effects model

Dr. Zein Kasrin is a senior researcher at the Institute for Employment Research (IAB) in Nuernberg, Germany. She works in the research unit "Basic Income Support and Activation" where she investigates the effectiveness of active labor market programs on different groups of welfare recipients in Germany. Her research interests include employment dynamics of immigrants in Germany as well as female employment determinants in the Middle East and North Africa.

95. Using Artificial Intelligence for Dampening Economic Cycles

Assoc. Prof. Dr. Alexandru Bodislav, Prof. Florina Bran, Assoc. Prof. Dr. Irina Elena Petrescu, Cristina Carol Gomboş PhDc

ABSTRACT:

The effectiveness of using artificial intelligence (AI) techniques to lessen the negative effects of economic cycles is examined in this study article. Economic cycles, which are defined by variations in the level of economic activity, present important difficulties for decision-makers in government, business, and society at large. This research investigates many approaches to reducing economic cycles, such as forecasting, policy creation, and adaptive decision-making, by utilizing AI, namely machine learning algorithms. The first section of the paper reviews the body of research on economic cycles and how artificial intelligence might be used to address them. After that, it explores certain AI methods including neural networks, time series analysis, and natural language processing, explaining how they might be used for risk management and economic forecasting. Additionally, the study looks into AI-driven policy interventions, examining how machine learning algorithms might be used to optimize monetary and fiscal policies in order to sustain growth and prevent economic downturns. The study also addresses the difficulties and constraints that come with using AI technologies in economic management, such as problems with algorithmic biases, data quality, and legal considerations. It highlights how crucial interdisciplinary cooperation and openness are to creating AI-driven solutions that are reliable, moral, and socially conscious. This research paper offers insights into the possible advantages and disadvantages of employing AI tools for damping economic cycles through empirical analysis and case studies. In order to fully realize AI's promise in fostering resilience and stability in the economy, it ends by presenting future research areas and policy suggestions.

Keywords: Artificial Intelligence, trend, economic cycles, resilience

Alexandru Bodislav (PhD) is an associate professor at Bucharest University of Economic Studies on Microeconomics, Macroeconomics, Applied Macroeconomics, Public Policies and Multi-level Governance. Since his academic tenure, he published 11 books (one of them selling in more than 60.000 copies), published more than 190 scientific papers and was speaker for more than 190 academic and business conferences, all of them on business intelligence, Artificial Intelligence, economic growth, corporate governance, technological development and government performance. For more than 20 years he is active in the private sector, being part of several executive boards in the Italian and Canadian natural resources sector, in the renewable energy sector in Switzerland and also in the construction sector for the Romanian public administration. He is also an economic expert on several TV shows in Romania and advisor for two TV series developed for CBS News, CNBC and Amazon Prime in the United States of America.

96. Artificial Intelligence for Sustainable Agribusiness

Prof. Florina Bran, Assoc. Prof. Dr. Alexandru Bodislav, Dr. Svetlana Platagea Gomboș, Dr. Sorin Petrică Angheluță

ABSTRACT:

The integration of artificial intelligence (AI) in sustainable agribusiness is examined in this research, with particular attention paid to robots, supply chain management, and precision agriculture. AI analyzes a variety of datasets, maximizes resource utilization, forecasts pest outbreaks and production changes, and allows for data-driven decision-making. AI improves supply chain management by lowering food loss, streamlining logistics, and guaranteeing on-time delivery. Robotics powered by AI revolutionizes labor-intensive processes, increasing output while reducing the need for chemicals. Notwithstanding its revolutionary potential, issues like data privacy and skill shortages still need to be resolved. Developing AI solutions that are inclusive and appropriate to a given context requires interdisciplinary collaboration. Improved equity and transparency are anticipated from developments in federated learning and explainable AI. All things considered, artificial intelligence (AI) presents hitherto unseen chances to advance sustainability along the agriculture value chain, building food system resilience and equity.

Keywords: Artificial Intelligence, sustainability, efficiency, agribusiness, resilience, functionality

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97. Business Cycle in the Romanian Economy: Phases and Developments

Prof. Dr. Carmen Valentina RĂDULESCU, Assoc. Prof. Dr. Ioan I. GÂF-DEAC, Assoc. Prof. Dr. Maria-Loredana POPESCU, Dr. Cristina DIMA

ABSTRACT:

Romania's economy is not yet sufficient / complete and competitive connected to the developed European economy and the global one. In recent economic and general political history, the political, institutional, and economic changes that have taken place since 1990 in Central and Eastern Europe, including Romania, are already recognized. The article deals with the evolutionary situational stages towards the New Economy of Romania. It also describes the post-transformation horizon for achieving quasi-constant inverted levels between "tangible-intangible" for the transition to a new business cycle in the New Knowledge-Based Economy and Risk. It follows that if GDP reflects the sum of the market value of all goods and services intended for final consumption, not intermediate ones, produced in all branches of the economy within Romania within a year, by way of investigative proximity, business, and cycles of manifestation of these were closely followed by dimensional evolutionary trends of similarity and aggregation with GDP. In fact, the New Knowledge-Based Economy has radically and positively changed Romania's advance towards the digitalized society, based more and more on the operationalization of intangible assets. The problem of vision, strategy and development tactics through new business cycles is found in the search for the optimal structural ratio between tangible and intangible assets (knowledge) insurers for competitiveness and sustainability.

Keywords: business cycle, Romanian economy, business, entrepreneurship, investment, new knowledge-based economy, tangible assets, intangible assets

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Assoc. Prof. Dr. Maria-Loredana POPESCU, Bucharest University of Economic Studies, Romania
Dr. Cristina DIMA, Bucharest University of Economic Studies, Romania

98. Establishment of Agro-Eco Industrial / Food Clusters in the Economy and on the Romanian Territory

Assoc. Prof. Dr. Ioan I. GÂF-DEAC, Prof. Dr. Carmen Valentina RĂDULESCU, Loredana MEGA PhDc, Radu Florin CHIOTAN PhDc

ABSTRACT:

The Romanian economy feels the need to formalize links between the situational economic forecast and the forecast forecast of technological events in industry and agriculture. The article studies a "dimension" of the organization for classifications of data, structures and economic / agro-eco-industrial events for clustering with the help of "dimensionality". Meta-prognostic relationships between economics, forecasting and forecasting agents (mathematical elements) are described and the role of metricity, sub-metricity and ultra-metricity in the observation of an automatic ontology for classifications supporting agro-eco-industrial / food clustering is highlighted. The paper proposes the algorithm of the informal classes of supervised / unsupervised data about agro-eco-industrial / food companies in Romania in order to establish classifications that would motivate the formation of clusters in the field. It is concluded that the mathematical apparatus for classification must be developed because based on symbolic mathematical models can be developed computer / computer programs for calculations of ultra-metricity of transformations for linearizations of similarities between firms, eliminating reminiscences / redundancies, aiming to reduce space / distances between data that represent, in fact, enterprises that can enter agro-eco-industrial / food clusters.

Keywords: agro-eco-industrial clusters, ultra-metricity, clustering, economic forecasting, classification

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Prof. Dr. Carmen Valentina RĂDULESCU, Bucharest University of Economic Studies, Romania
Loredana MEGA PhDc, Valahia University of Targoviste, Romania
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99. Agriculture and sustainable development in Romania

Dr. Ovidiu Andrei Cristian Buzoianu, Dr. Oana Camelia Iacob Pargaru,
Vicentiu Mihai Mateescu, Assoc. Prof. Dr. Sorin Burlacu

ABSTRACT:

The general objective of sustainable development is to find a balance of the interaction between four systems: economic, human, environmental and technological, in a dynamic and flexible functional process. The optimal level corresponds to that long-term development that can be supported by the four systems. Long-term challenges loom large and require decisive action- an ever-increasing global population, increasing pressure on natural resources and global warming define a new framework for action. In Europe, the aging population is an additional challenge. All this will have profound implications on agriculture and rural areas. Although global demand for food is increasing, increased urbanization, rising energy and fertilizer prices, pressure on water resources, and increased vulnerability of crops and livestock to climate change will limit food supply. In response to these challenges, the EU has embarked on a transformation process, with the aim of addressing challenges related to food security, sustainable management of natural resources and balanced territorial development

Keywords: agriculture, sustainable development, production, Romania

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100. The evolution and Trends in the Dynamics of Services in Romania

Assoc. Prof. Dr. Sorin Burlacu, Dr. Oana Camelia Iacob Pargaru, Assoc. Prof. Dr. Florin Dobre, Dr. Ovidiu Andrei Cristian Buzoianu

ABSTRACT:

This article aims to explore the evolution and current trends in the field of services in Romania, analyzing the factors that have influenced the dynamics of this sector and the impact on the national economy. The investigation and research stage of this project focuses on the following aspects: the definition of services, the etymology of the concept and their evolution in Romania. The various categories of services namely education, tourism, transport, post and telecommunications and health will be examined to highlight their variety and importance in the national economy. A crucial aspect in understanding the dynamics of services in Romania is the identification of the factors that influenced the development of this sector. At the same time, government policy and relevant legislation in the field of services will be investigated, examining the measures taken to support the development and competitiveness of this sector. Another important aspect of the project consists in evaluating the impact of the dynamics of services on the Romanian economy. The contribution of the service sector to the national Gross Domestic Product, employment, exports and regional development will be analyzed..

Keywords: development, population, Romania, services

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101. The Role of Inflation and its Targeting Strategies in Romania

Prof. Catalin Razvan Dobrea, Assoc. Prof. Dr. Romeo Catalin Cretu,
Assoc. Prof. Dr. Catalin Octavian Manescu, Madalina Moncea PhDc

ABSTRACT:

Inflation is based on numerous partial causes, from the correlation of which the inflationary process results. elected, it will be shown what losses the company will suffer because it fired a person without notice, especially when he was on vacation. In this paper, we will follow the fact that inflation has a fixed increase, this being indexed and calculated at the level of Romania, by the National Institute of Statistics, in order to calculate the salary and commission due for the injured employee. In specialized literature, inflation is expressed in monetary terms by the fact that the prices of services and goods increase, and the purchasing power of a mounting unit decreases.

Keywords: demand, cost, finance, inflation, Romania

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102. European Trends in Local Public Administration

Assoc. Prof. Dr. Florin Dobre, Vicentiu Mihai Mateescu, Otilia Ganea PhDc

ABSTRACT:

The trend of globalization, accompanied by the dynamic development of social systems, places national states in a completely new position, in which institutions and administrative systems must be adapted. Any intervention in the field of public administration reform implies changes in major components, including central administration, local administration and public services. On the other hand, the development of democracy calls for the establishment of a new relationship between citizens and the administration, increasing and strengthening the role of local authorities and reconsidering the partnership with civil society. There are numerous reasons for the structural and functional modernization of the public administration in Romania, starting from the need for more efficient functioning of government institutions to the aspiration to become a member of the European Union. The present study aims to address these aspects taking into account the impact of the reform measures at the public administration level that have been undertaken recently. Through the coherent and continuous development of the decentralization process in the next period, we will be able to witness the increase in the quality and efficiency of public services, and local administrations will respond to the demands of citizens and local development in an improved way.

Keywords: development, Europe, municipalities, public administration

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103. Renewable Energy - a Key Element in Achieving Sustainable Development in the European Union

Assoc. Prof. Dr. Radu-Ioan Mogoş, Assoc. Prof. Dr. Mihai Dinu,
Assoc. Prof. Dr. Romeo Cătălin Creţu, Assoc. Prof. Dr. Maria Roxana Cosma

ABSTRACT:

Sustainable development (SD) represents a growth approach that tries to maintain a social, economic and environmental balance. SD aims to meet the needs of the present without compromising the needs of future generations. For a sustainable development, a key element is represented by renewable energy (RE). The use of RE on an increasingly large scale brings with it a series of advantages and positively influences aspects such as resource conservation, air and water quality improvement, climate change, greenhouse gas emissions, etc. Realization of RE through different ways such as wind energy, solar power, hydropower, etc. and by combining them, European citizens can take an important step in realizing a more sustainable and renewable energy future. The article presents a data mining analysis on the use of RE in EU countries, taking into account the share of industry use such as heating and cooling, transport and electricity. The results of the analysis aim to identify countries that show a similar behavior from the point of view of the use of RE. Based on them, policies and strategies at the EU level can be founded.

Keywords: renewable energy, sustainable development, European Union, data mining

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Maria Roxana Cosma is an associate professor at Bucharest Technical University of Construction.

104. Renewable Energy Policies in EU: Impact on Labor Markets for Sustainable Development

Assoc. Prof. Dr. Ghenadie Ciobanu, Dr. Petruț Cristian Vasile, Dr. Maria Roxana Cosma, Dr. Ana Maria Călin

ABSTRACT:

The development of renewable energies in the EU is essential for sustainable development and energy security, having a significant impact on labor markets. Strategies and policies target the EU's objectives and commitments, financial incentives, regulations, innovations, research, in line with labor market opportunities. Reconversion of the workforce and transition to renewable energies are needed, as well as reskilling from traditional industries to green energy sectors. and reducing dependence on fossil energy sources contributes to energy security in the EU. Our proposals focus on promoting sustainable development, with renewable energies essential to reducing greenhouse gas emissions and protecting the environment. Multilateral cooperation, through the development of renewable energies, is an integral part of sustainable development strategies and ensuring energy security. To analyze the theme, we propose theoretical and practical approaches, correlating sustainable development theory, labor market theory and public policy theory, with practical applications in renewable energy sector strategies and policies and impact on labor markets.

Keywords: renewable energies, labor markets, sustainable development, financial incentives, multilateral security

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105. The impact of artificial intelligence in the educational field

Dr. Cristian Petrut Vasilache, Prof. Dr. Ion Pargaru, Dr. Victor Adrian Troaca, Dr. Bogdan Vatase

ABSTRACT:

The concept of Artificial Intelligence has lately disturbed not only the scientific world but also the media space in general, especially since in reality there is still no unanimously acceptable definition. People have not agreed on a general definition of intelligence, much less on artificial intelligence. Under these conditions the increasingly frequent use of the concept of Intelligence Artificial intelligence has progressed to the point where it is an essential component in almost all sectors of today's modern economy, with a significant impact on our private, social and political lives. It was founded on the assumption that human intelligence can be described so accurately that a machine can be made to simulate it. This raises philosophical arguments about the mind and the ethics of creating artificial beings endowed with human-like intelligence. Artificial intelligences are a source of a whole new set of problems of explain, accountability and trust.

Keywords: artificial intelligence, development, technology, education

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106. Interactive Books as a Sustainable Approach to Teaching Italian at the University Level: Enhancing Engagement and Learning Outcomes

Dr. Gihan Diab

ABSTRACT:

This study explores the use of interactive books as a sustainable and flexible approach to teaching Italian at the university level, especially in the context of increasing demand for digital learning solutions. Interactive books, which integrate multimedia elements such as videos, audio, and interactive exercises, offer a more dynamic and engaging alternative to traditional textbooks. By leveraging these tools, educators can enhance student participation and motivation, while promoting sustainable practices by reducing reliance on physical materials.

The research compares student engagement, motivation, and language proficiency between those using interactive books and those using traditional textbooks in university-level Italian courses. Data was collected from students during a period of remote learning, which was accelerated by the need to adapt to online education during the COVID-19 pandemic.

The results reveal that interactive books significantly improve student engagement and comprehension while addressing the challenges of remote instruction. Moreover, they provide an environmentally sustainable option that can be continuously updated without additional material costs. The findings highlight the long-term potential of interactive books to transform language education, offering resilience in times of disruption while improving learning outcomes and sustainability.

Keywords: interactive books, resilience, disruption, traditional textbooks

107. Techno-economic analysis of reverse water gas shift reaction

Cintia Alexandra Trapp, Balázs M. Hepp

ABSTRACT:

Addressing global climate change requires innovative green technologies, particularly in carbon capture and utilization (CCU). Our study focuses on the techno-economic analysis of the reverse water gas shift (RWGS) reaction, which converts CO₂ and H₂ into syngas. Utilizing literature sources and Aspen Plus for modeling, our findings indicate that RWGS can only be a sustainable and cost-competitive solution if many factors align simultaneously. Our research shows that, at this point, RWGS is not cost-efficient due to the current technology readiness levels (TRL) and high operation costs, which necessitate large-scale plants for profitability. Alternatively, favorable regulatory changes such as increased CO₂ ETS credits could improve its economic viability. The analysis is constrained by the nascent TRL and limited literature, introducing uncertainty. Future research should explore the effects of varying pressure and temperature on the RWGS process and address downstream processes including CO handling, storage, and distribution. This study underscores the potential of RWGS as a viable route for CO₂ conversion but highlights the need for further investigation to achieve economic feasibility.

Keywords: Carbon utilization; Reverse water gas shift reaction; Syngas; Techno-economic analysis

Cintia Alexandra Trapp is a researcher with the Social Science Research Group on Green Technology at the University of Szeged, Hungary. She studied at the University of Szeged Faculty of Economics and Business Administration, where she developed a strong foundation in economic analysis and business strategies. Her current research focuses on the techno-economic analysis of innovative processes like the reverse water gas shift reaction, aiming to develop cost-effective solutions for CO₂ conversion. Her work contributes to addressing global climate change challenges by exploring alternative pathways for carbon capture and utilization, promoting the development of environmentally friendly industrial practices.

Balázs M. Hepp is a product manager at eChemicles following a transition from the oil industry. He obtained master level degrees from Jönköping University in 2021 and University of Pannonia in 2023 in Strategic Entrepreneurship and Nuclear Engineering, respectively.

108. Petrographical Study on Jurassic limestone cores from the Caragele Structure (Buzau County, Romania)

Assist. Prof. Dan-Romulus Jacota, Assist. Prof. Mihai Ciocirdel

ABSTRACT:

The Jurassic formation, west of Capidava-Ovidiu fault, to the north-eastern part of the Moesian Platform, is known relatively little from a petrographic standpoint, an impediment being the insufficient sampling of rock probes. This area of the platform is tectonically active and is part of the Vrancea Seismic Zone, the reason for which numerous studies focused on this aspect rather than other details. The Moesian Platform has long been studied for its hydrocarbon potential, but this feature is in the western part and in isolated areas belonging to the center. The eastern sector, and north-eastern part where our study is conducted, have not been studied in depth due to their correspondence with the Central Dobrogean formations of the same age, for which various studies have been conducted. Our findings reveal the presence of bioturbations during sedimentations which had as result a slight increase in clay material and organic matter in the initial deposits. Also, simultaneously with the recrystallized carbonate as microsparite, small quantities of detrital-siliciclastic, somewhat coarser, carbonates have sedimented which resulted in formation of porous space.

Keywords: Eastern Moesia, microsparitic carbonate, bioturbations, crystalline limestone, porous lenticles

Assist. Prof. Dan-Romulus Jacota (35) graduated BSc. in Petroleum Geology in 2011, MSc. In Reservoir Engineering in 2013 and obtained his PhD. in 2016 with the entitled thesis Study on Potential Production Resumption of the Abandoned Oil Reservoirs. He is currently teaching Reservoir Hydrocarbon Physics and Reservoir Geology in the Faculty of Oil and Gas Engineering from the Petroleum-Gas University within the city of Ploiesti from Romania.

109. Environmental Taxes as a Path to a Green Transition

Assoc. Prof. Ing. Emília Huttmanová, Mgr. Radoslav Mikča

ABSTRACT:

The integration of sustainability elements into all spheres of human activities is one of the primary initiatives of policymakers in individual European countries, but also in a broader international perspective. The transition towards more sustainable production-consumption models is now becoming a challenge for European countries. This shift is an essential part of the commitments and goals that the European Union has set itself in the medium and the long-term horizon. The future economic orientations of European countries will depend not only on the willingness and effort to use classical tools in the process of creating a green future, but especially on the level of knowledge of their appropriate implementation in practice. The paper is focused on the issue of the evaluation of selected economic instruments of environmental policy (environmental taxes) in the European area in the context of the transition to a green economy. The aim of the paper is to evaluate the use of taxes with an environmental aspect across European countries and to analyse the similarities in the process of their application towards green transformation. The need for a deeper knowledge and understanding of this area is essential in the context of the implementation of the Sustainable Development Goals in the countries involved in the 2030 Agenda.

Keywords: Environmental taxes. Sustainability. Energy. Transport. Green Transition.

Emília Huttmanová holds a position of Associate Professor in the Department of Economics and Economy.

Her scientific and pedagogical activities are primarily focused on the national economy and green trends in the economy oriented towards sustainable development and circularity. She actively participates in the international and national scientific research and development projects. She is a co-author of scientific monographs, university textbooks, scientific papers registered in the WoS and Scopus databases and other scientific papers, with corresponding citation response. In her career, she has held the positions of Vice Dean for Education and Communication (2010-2018) and served as the Head of the Department of Environmental Management (2019-2021). Currently she is a member of the FMEO Scientific Council, the FMEO Doctoral Studies Committee, the FMEO Academic Senate and a member of the Study Committee at the Academic Senate of the University of Prešov.

Radoslav Mikča completed his bachelor's and master's studies at the Faculty of Management and Business of the University of Prešov in the study programme Management in the field of Economics and Management. His master's thesis focused on the drivers of economic growth in the European Union countries and the recent sixth Kondratieff wave. From the academic year 2023/2024, he is an internal PhD student at the Department of Economics and Economy. His doctoral thesis focuses on sustainable development and the concept of new directions and trends towards sustainability.

110. Circular Economy in Action: Examining the Decoupling of Economic Growth and Material Use across EU Countries

Assoc. Prof. Ing. Emília Huttmanová, Ing. Dr. Jana Chovancová, Dr. Igor Petruška, Karolína Sallaku

ABSTRACT

The circular economy (CE) is a transformative approach that not only preserves and reuses resources but also redefines how economic growth can be achieved in a more sustainable manner. The aim of the paper is to assess whether economic growth in EU countries can be decoupled from resource use through CE practices. Using data from Eurostat spanning 2010-2022, we analyze key indicators such as Raw material consumption (RMC), Gross domestic product (GDP) and Circular material use rate (MUR). We apply correlation analysis and decoupling analysis to assess the efficacy of CE practices in achieving sustainable economic growth. The results indicate significant variability among EU countries in their ability to decouple economic growth from resource consumption. Some countries demonstrated strong absolute decoupling, indicating successful CE integration, while others faced challenges with expansive negative decoupling. The study underscores the necessity for tailored strategies to enhance CE implementation across diverse economic contexts within the EU.

Keywords: decoupling, circular economy, raw material, circular material, GDP, EU countries

doc. Ing. **Emília Huttmanová**, PhD. is assoc. prof. at Department of Economics and Economy, Faculty of Management and Business, University of Prešov (Slovakia). Her scientific-pedagogical activity is primarily focused on the issues of sustainable development and environmental economy, the evaluation of instruments of environmental policy and new concepts of sustainable development (circular economy, green growth, etc.). She is author (or co-author) of more than 150 scientific publications dealing with sustainable development and environmental issues in economic contexts - scientific monographs, textbooks, scientific articles registered in the WoS and Scopus databases, and scientific papers presented at conferences, or in various journals and proceedings, with the corresponding citation acclaim. She has been a co-researcher of several successfully completed scientific research projects at the international and national level. She has served as Vice Dean for Education and Communication (2010-2018) and Head of the Department of Environmental Management (2019-2021).

Ing. **Jana Chovancová**, PhD. is lecturer at Department of Management, Faculty of Management and Business, University of Prešov (Slovakia). She focuses on the issue of voluntary tools of environmental policy and the possibility of their application in business practice and material circularity and the methodological aspect of increasing the circularity potential. Her work experience in an environmentally oriented non-profit organization helps her to transfer practical experience to the academic environment. She is the author (or co-author) of several scientific monographs and textbooks as well as more than 50 scientific publications devoted to environmental management and sustainability issues registered in WoS database. She worked as an expert evaluator of Horizon 2020 projects (Science with and for society - SwafS) and cross-border cooperation projects (HU-SK-RO-UA). She has been a co-researcher of several national and international environmentally oriented projects, and even today she is actively involved in solving several scientific or educational projects. She completed several internships abroad and lectured in international summer schools focused on Green Economy and Sustainable Growth.

RNDr. **Igor Petruška**, CSc. is a lecturer at Department of Finance, Accounting and Mathematical Methods, Faculty of Management and Business, University of Prešov (Slovakia). His dissertation thesis was focus on solving a nonlinear elliptic boundary value problem using a variational inequality. His pedagogical and scientific activity is focused on the use of mathematical and statistics methods to economics. He is a member of research teams and author (or coauthor) of numerous scientific articles (also registered in WoS database).

Karolina Sallaku, LUM University, Casamassima, Italy.

111. Carbon Emission and Climate Change in Emerging Economies: A Qualitative Comparative Analysis

Dr. José Carlos Rodríguez

ABSTRACT:

Simon Kuznets published in 1955 a seminal work on the relationship between economic growth and income inequality. Since then, many scholars have aimed to explain the relationship between environmental pollution and economic growth (i.e., per capita income). On this basis, Panayotuo's propositions became the core explanation of this relationship. Indeed, the Kuznets curve hypothesis (KCH) aims to explain an inverted U-shaped relationship between environmental degradation (i.e., pollution) and per capita income at the country level. On the other hand, some authors examine the relationship between environmental pollution, income inequality, and foreign direct investment from the perspective of the pollution haven hypothesis (PHH). This research aims to test the KCH and the PHH on environmental degradation and per capita income by applying the fuzzy-set Qualitative Comparative Analysis (fsQCA) methods to find out the necessary and sufficient conditions that explain environmental degradation in the case of emerging economies. It is argued in this research that the conditions hidden in these hypotheses can be theorized and empirically examined as a causal complexity phenomenon. Three features characterize the configurational approach (e.g., fsQCA perspective) when determining the configurations (i.e., set of conditions) conducted to explain an outcome (e.g., pollution degradation), namely conjunction, equifinality, and asymmetry.

Keywords: Pollution degradation; Kuznets curve hypothesis (KCH); pollution haven hypothesis (PHH); fuzzy-set Qualitative Comparative Analysis (fsQCA); emerging economies.

Dr. José Carlos Rodríguez graduated from Université du Québec à Montréal (UQÀM) in Canada. His research interests are in technology management and innovation, energy economics and innovation, and international business. He has published in several journals and conference proceedings on issues related to university-industry technology transfer, energy economics, and innovation systems. He is currently a Professor at Economic and Business Research Institute (ININEE) in Mexico. He has also been a Visiting Researcher at Gordon Institute of Business Science (GIBS) in South Africa and Institut National de la Recherche Scientifique (INRS) in Canada, and a Professor at Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) and Centro de Investigación y Docencia Económicas (CIDE) in Mexico. He has served as a reviewer in several journals focused on technology management and innovation, and energy economics.

112. Tourism, Regional Revitalisation and ESD: Student-centred University Project between Tokyo and Kuji

Assoc. Prof. Dr. Kristie Sage

ABSTRACT:

This presentation reports on the current stage of a university in Tokyo, Japan's inter-departmental institute, a student-led field research project conducted in collaboration with the local city government of Kuji in Iwate, North-East Japan. Its aim is to reinvigorate the promotion of this regional destination for tourists. Revitalising such areas is challenged by the socio-economic and demographic phenomena of depopulation, causing mass urbanisation and an inbound tourist boom to the same megacities. The nation wishes to manage these issues more sustainably. Education for Sustainable Development (ESD) is valued in Japan, and this project adopts its premise through tourism to discover ways to address the issues faced by Kuji. Kuji City gained some prominence overseas due to the drama Amachan, featuring its free divers. The city hopes to diversify with tourism by highlighting its Japanese authenticity: white birch forests to the Sanriku coastline, amber fossicking, post-3-11 railway rebuilding and sea urchins. The university's institute pursues ESD student-centred leadership through this project and tourism as an important mechanism to connect international and domestic university students in Tokyo with Kuji City's citizens to stimulate sustainable interest in community building.

Keywords: University Project, Tourism, ESD, Regional Revitalisation, Kuji

Dr. Kristie Sage is an Assoc. Prof. at Showa Women's University of Tokyo, Japan. Advising on English language related national committees, facilitating student-orientated projects, and teaching broad social science subject areas from business to linguistics to undergraduate and post-graduate students in a TEFL environment; evolving research interests at present seek to enhance ESD as it pertains to contemporary socio-economic conditions of not only Japan to address issues from the macro to micro levels within the education and related sectors.

113. Preliminary Literature Review of Relationship Management for the Governance of CCU/S

Krisztina Kádár

ABSTRACT:

Global climate change, driven by high atmospheric carbon dioxide levels, demands diverse and innovative solutions. Carbon capture, utilization and storage (CCU/S) technologies are emerging as promising methods to address this issue. However, the nascent nature of CCU/S brings uncertainties and faces a lack of universally accepted management practices. Stakeholders must collaborate to navigate the risks, uncertainties and costs associated with implementing CCU/S projects. In this preliminary literature review, international studies related to relationship management beyond the corporate sector were analyzed to gain broader insights. The research focuses on evaluating the potential and applicability of various relationship management practices for CCU/S governance from an economist's perspective. The review identifies key relationship management practices suitable for CCU/S governance. These practices emphasize managing diverse stakeholder interests, promoting cooperation, communication, and trust-building. The preliminary findings suggest that effective relationship management is essential for the successful implementation of CCU/S projects. By aligning stakeholder interests and fostering collaboration, relationship management can help navigate the complexities and uncertainties of CCU/S governance. This supports broader efforts to mitigate global climate change and highlights the importance of integrating social scientific perspectives in the deployment of green innovations.

Keywords: relationship management; carbon capture, utilization and storage; CCU/S technologies; governance of CCU/S

Krisztina Kádár is a researcher at the University of Szeged, Hungary. Working in the Green Technology Readiness Research Group, she contributes to studying the social aspects connected to green innovations and technologies. Her newest research focuses on the topic of governance of carbon capture, utilization and storage (CCU/S) technologies through relationship management. With a strong background in economics, she examines the potential and applicability of relationship management to facilitate stakeholder collaboration, manage uncertainties, and navigate the complexities of CCU/S projects. Her work aims to provide a framework for aligning stakeholder interests and fostering cooperation, which is crucial for the successful deployment of CCU/S technologies. Krisztina Kádár is committed to advancing sustainable solutions to address global climate change, emphasizing the importance of integrating social and economic perspectives in the development and governance of green technologies.

114. The Antimethanogenic Power of *Rubus fruticosus* and *Phillyrea media*: an Asset for Environment

Prof. Lamia Mebirouk-Boudechiche, Ms. Ismahene Bendekoum, Prof. Kahina Chaker-Houd, Dr. Sourour Abidi

ABSTRACT:

Fodder in general is recognized for its methanogenic power which is harmful to the environment. Our work focuses on the antimethanogenic power of two forage shrubs. The study was carried out on two shrub species *Phillyrea media* and *Rubus fruticosus* from a silvopastoral zone of north-eastern Algeria. The leaves and stems of each species were analyzed separately in summer and winter. The secondary metabolite contents were determined. In vitro fermentation characteristics were analyzed in 100 ml glass syringes for 72 hours to study gas and methane production, with and without polyethylene glycol (PEG). *Rubus fruticosus* leaves have the highest content of phenolic compounds (65.95 and 59.72g tannic acid equivalent/kg DM, respectively for total phenols and tannins and 22.67g equivalent leucocyanidin/kg DM for condensed tannins) in winter. The addition of PEG significantly improved gas production for both species, with increase rates of 110.08 and 117.70%, respectively for the leaves of *Phillyrea media* and *Rubus fruticosus* in winter. The highest concentration of methane was produced by the leaves of *Phillyrea media* (27.48 ml/0.2 g DM), however PEG significantly reduced the methane production of the leaves and stems of both species, thus entitling them anti-methanogenic power, protective of the environment.

Keywords: Fodder shrubs, fermentation, methane, PEG, antimethanogenic power

Prof Mebirouk-Boudechiche Lamia is a teacher researcher in Chadli Bendjedid university of Algeria. She is interested in the environment, animal and breeding systems and the relation between ruminant breeding and environment.

Ms Bendekoum Ismahene is a teacher researcher in Chadli Bendjedid university of Algeria, where investigated on environment, microbiology and forest systems.

Prof Chaker-Houd Kahina is a teacher researcher in Chadli Bendjedid university of Algeria. She is interested in the environment, animal and forest systems.

Dr Abidi Sourour is a researcher in National institute of Agricultural Research of Tunis. She is interested in the environment, animal and fodder production.

115. Sustainable Development Goals in the European Higher Education Area (ODS12 and ODS 13) in Entrepreneurship

Dra. D^a Rocío Carrillo Labella, Dra. Fatiha Fort

ABSTRACT:

Businesses, universities, and society in general are facing global challenges such as the economic crisis, climate change, desertification, deforestation, inequalities, wars, and the eradication of poverty. The University, as an institution dedicated to the creation and transmission of knowledge through research and teaching, plays a leading role in the dissemination and application of possible solutions and alternatives to the sustainability problems facing today's society. In this context, the overall objective of this study is to identify the key points in the adoption of sustainability criteria through a qualitative exploratory focus group study among business students. That is, to identify the key points in business planning where a company should show appropriate sustainable behavior, following classroom work on SDG 12 (Ensure sustainable consumption and production patterns) and SDG 13 (Take urgent action to combat climate change). Among the main results, students have shown to acquire sustainability competencies such as systemic thinking, critical thinking, collaborative work, and self-awareness of sustainability, especially in companies in the process of internationalization: technological environment, socio-cultural environment or changes in consumers among other aspects, which they must consider in their innovative entrepreneurship project.

Dra. Rocío Carrillo Labella. Associate Professor in the Department of Business Organization Marketing and Sociology in the area of Marketing and Market Research at the University of Jaen, Spain. PhD. in Business Administration specialized in olive oils and Agri-food marketing. PhD In management sciences from the Institut Agro / SupAgro, Montpellier, France. Master in Marketing and Consumer Behavior from the University of Granada and Jaen, Spain. Graduate in Economic and Business Sciences from the University of Jaen, Spain. Author of 2 books, 1 chapters of books, 3 articles in journals and 20 papers presented to congresses. Researcher in 7 projects and R & D + I research contracts of which in 2 he has been Researcher Responsible. He is currently part of the work team in the European project "TRADE4SD: Fostering the positive linkages between trade and sustainable development" H2020. He has attended more than 20 international congresses to highlight the 5th International Conference on Sustainable Development Rome, Italy. He has publications in indexed journals such as Sustainability or European Journal of sustainable development

Dra. Fatiha Fort is a Professor in Agri-business Marketing Management, Institut Agro Montpellier France. Teaching food marketing, new product marketing, entrepreneurship and management in food sector. Main Research activities: sustainable food consumption, territorial marketing linked with traditional local food and innovation adoption processes in SME's related to sustainable development. She has published numerous works in French (Revue Française de Gestion, Revue Française de Marketing, Decisions Marketing, Recherches et Applications en Marketing, la revue Recherches en Sciences de Gestion) and international journals (Food Policies, Journal of Product and Brand Management, Place Branding and Diplomacy, Anthropology of Food.) She is head of editorial board of the review Systèmes Alimentaires / Food Systems

116. Evolution of Factors Inhibiting the Implementation of Innovations by Housing Developers in Poland

Dr. Marcin Sitek

ABSTRACT:

Innovations in the real estate market stimulate pro-ecology, energy efficiency, ergonomics and renewable energy sources. They make economies develop by creating increasingly better conditions for people, thus contributing to the increase the competitive position of regions, and especially to stimulating sustainable development. The aim of the article is to identify factors influencing the counteraction of the implementation of innovations by developers implementing multi-family, multi-storey housing projects on the real estate market in Poland. Data for the achieving the goal was obtained primarily from a survey conducted in 2020 and then in 2022 using the CATI - computer-assisted telephone interviewing method - in Poland. The paper presents barriers of the introduction of innovations as well as factors stimulating them in the context of their assessment. In addition, an attempt to indicate the most important areas related to the activities of housing developers was made that inhibit the development of innovations on the real estate market in Poland. The above was confronted with new EU regulations such as Green Deal and Fit for 55, which will be a factor forcing the introduction of innovations in residential construction, in the field of energy efficiency. The study also contains general recommendations regarding the necessary changes that should take place in order that housing developers in Poland start to implement more innovations into their projects in the context of changes in EU regulations, including low emissions and energy efficiency.

Keywords: RES, innovation, housing developer, residential construction, sustainable development,

Marcin Sitek, Ph.D., is the assistant professor in Częstochowa University of Technology, Faculty of Management, Department of Economics, Investment and Real Estate. He is the author of 1 monograph and more than 90 publications from field of real estate. Previously his interests focused on financing the real estate by banking system - refinancing mortgages by deposits as well as by special financing instruments issued on financing market. Nowadays his field of interests enclose - investment in the real estate market - directly and through financial market, risk on real estate market especially in the relation with implementing the innovations, implementation of innovations on residential market and sustainable construction.

117. Powering Progress: Unraveling the Energy Intensity Puzzle in Southeastern Europe

Aranit Shkurti, Diamantina Allushaj

ABSTRACT:

The paper examines the energy intensity trends in SEE, focusing on the determinants and implications for sustainable development. The region, comprising countries like Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Montenegro, North Macedonia, Romania, Serbia, and Slovenia, has historically exhibited higher energy intensity compared to Western Europe. This is largely due to the legacy of inefficient industrial practices, reliance on fossil fuels, and outdated energy infrastructure inherited from the socialist era.

Recent years have seen efforts to reduce energy intensity through investments in energy efficiency, renewable energy, and modernization of infrastructure. However, the progress is uneven across the region, with some countries making significant strides while others lag behind. Key factors influencing energy intensity include economic structure, energy policy, technological adoption, and external economic pressures such as energy prices and integration into the European Union. Reducing energy intensity is critical for SEE countries to achieve economic competitiveness, reduce greenhouse gas emissions, and improve energy security. This requires a coordinated approach involving policy reform, investment in clean technologies, and regional cooperation. The ongoing transition toward a more sustainable energy system in SEE, while challenging, presents significant opportunities for economic growth, environmental protection, and enhanced quality of life in the region.

Keywords: Energy Intensity, Sustainable Development, Energy Efficiency, Economic Competitiveness, Renewable Energy, Energy Policy, Industrial Modernization

118. Innovation Management of Small and Medium-Sized Enterprises: Disclosing Insights from Existing Literature and Determining Research Trends

Dr. Monika Sipa

ABSTRACT:

Globalisation, digitalisation, Industry 4.0, Industry 5.0 or the COVID-19 pandemic are constantly posing new challenges to economies and the organisations operating within them. Innovation, and more specifically innovation management (IM), which is of scientific interest to many researchers, is always important in facing these new realities. The main objective of this article is to identify leading concepts and recent research trends in innovation management, with a special focus on small and medium-sized enterprises (SMEs).

Using the SCOPUS citation database, publications were reviewed to answer the following questions: (RQ1) How has the academic research perspective on innovation management in SMEs evolved over the last decade? and (RQ2) What are the leading research areas and new trends in innovation management research in the SME sector?

The analysis covered the period of 2003 to 2023. The collected data was pre-selected and then, based on the frequency of co-occurrence of key terms, mapping was performed and keywords were extracted using VOSviewer software.

This paper provides an overview of the main concepts and trends in innovation management research with a focus on the SME sector and can be a valuable study and guide for future studies in this area.

Keywords: innovation management, SMEs, VOSviewer

Monika Sipa Phd, is an assistant professor of management at Czestochowa University of Technology, Faculty of Management in Czestochowa, Poland. Her work focuses on problems of functioning and development of small and average enterprises on the market. The closest and the most interesting for her are the questions connected with innovativeness and competitiveness of small enterprises.

119. Correlation Between Dyslipidemia, Inflammatory Biomarkers, and Cardiometabolic Health: Implications for Sustainable Public Health

Dr. Iris Zacellari, Dr. Mirgen Zacellari

ABSTRACT:

Dyslipidemia—an imbalance of lipids in the blood characterized by elevated triglycerides, high low-density lipoprotein (LDL) cholesterol, and low high-density lipoprotein (HDL) cholesterol—is a core component of metabolic syndrome. This condition is closely associated with a state of chronic, low-grade inflammation, which significantly elevates the risk of cardiovascular diseases, including heart attack and stroke.

This study specifically investigates the correlations between these lipid parameters and key inflammatory biomarkers in adults diagnosed with metabolic syndrome. Blood samples were analyzed for classic lipid profiles (total cholesterol, triglycerides, HDL, LDL) and a panel of inflammatory markers, including C-reactive protein (CRP), Interleukin-6 (IL-6), and Tumor Necrosis Factor-alpha (TNF- α). The results revealed that elevated LDL and triglyceride levels showed a strong positive correlation with increased levels of CRP and IL-6, whereas higher HDL levels demonstrated a protective, inverse relationship with these same inflammatory markers.

Strengthening early and accessible cardiometabolic screening programs is a foundational investment in sustainable healthcare systems. By identifying and intervening in conditions like dyslipidemia and chronic inflammation early, we can prevent the onset of more severe, costly chronic diseases. This proactive approach mitigates the long-term economic burden on healthcare infrastructure.

Ultimately, shifting resources from treating advanced disease to promoting metabolic health aligns with the core principle of intergenerational equity, ensuring a healthier population and a more viable healthcare system for future generations.

Keywords: Dyslipidemia, Metabolic Syndrome, Chronic Inflammation, Cardiovascular Risk, Population Well-being, Resilient Communities

Dr. Iris Zacellari is specializing in clinical biochemistry and working as physician at Health Center Nr 10, focusing in environmental health and molecular biomarkers. Her work focuses on liver physiology and the use of biomarkers to assess population-level health and environmental exposures, aiming to inform evidence-based health policies and sustainable development strategies.

Dr. Mirgen Zacellari is a clinician at Health Center Nr 5 with expertise in preventive medicine. His research emphasizes the integration of liver biomarkers into clinical and public health practice to monitor environmental and lifestyle-related risk factors, supporting strategies aligned with global sustainability goals.

120. Selected Aspects of Knowledge Management in the Care of Patients with Dementia

Dr. Andrzej SKIBIŃSKI, Assoc. Prof, Renata Klufová, Assoc. Prof, Lucie Lucie Kozlová,

ABSTRACT:

Dementia is characterized by a progressive cognitive decline, memory impairment, and disability. Alzheimer's disease (AD) accounts for 60-70% of cases, followed by vascular and mixed dementia. Given the projected trends in population ageing and population growth, the number of people with dementia is expected to increase. Stakeholders involved in community dementia support services often work on their own and without coordination with other services. These circumstances can result in a lack of information and support for people with dementia and their family caregivers at home. Caregivers of people with dementia find it extremely difficult to choose the best care method because of complex environments and the variable symptoms of dementia. This contribution aims to assess and compare community health professionals' dementia knowledge, attitudes and care approaches in Poland and the Czech Republic.

Dr. Andrzej SKIBIŃSKI is an assistant professor at the Department of Economics, Investments and Real Estate at the Faculty of Management of the Czestochowa University of Technology, Poland. His research interests relate to demography, human resources management, socio-economic policy and waste management. An author and co-author of over 100 publications in this field, many of which are indexed in the Web of Science and Scopus databases. He presented the results of the research at international scientific conferences, including in Austria, the Czech Republic, Indonesia, Romania, Slovakia, Spain, Turkey and Italy. An important part of his research work is participation in national and international research projects. He is also a member of:
the Polish Economic Society,
the Polish Society for Social Policy,
the Polish Production Management Society.

Assoc. Prof, Renata Klufová, University of South Bohemia in České Budějovice, Faculty of Economics, Czech Republic.

Assoc. Prof, Lucie Lucie Kozlová, CEVRO University in Prague, Department of Economy, Czech Republic.

121. Strategic Educational Priorities for Albania in the Context of EU Accession Negotiations

Klotilda Muça

ABSTRACT:

This paper examines the impact of European integration on educational reforms in Albania, comparing its progress with neighboring Western Balkan countries. Using Europeanization theory, the study employs qualitative methods and comparative analysis of educational indicators. By tracing Albania's historical journey toward EU accession, the research identifies significant milestones and challenges in its educational reforms. Comparisons with Serbia, Montenegro, North Macedonia, Kosovo, and Bosnia and Herzegovina reveal both shared characteristics and differences in their educational systems. The study delves into how European integration has shaped Albania's education sector, including the role of EU funding. It explores common challenges and considers collaborative solutions. The research concludes with insights into the future of educational reforms in Albania and the Western Balkans in the context of ongoing European integration. This study adds nuanced perspectives to the existing literature, offering several implications for policymakers, educators, and international organizations engaged in shaping the region's educational landscape.

Keywords: European integration, Albania, Education, Western Balkans.

Klotilda Muça is an Albanian educator specializing in the English language in Tirana, Albania, with a primary focus on the policies of the Albanian education system, particularly in the context of European integration, as well as the rights of educators and learners. She holds advanced degrees in Foreign Languages, Law, and European Union Membership and Accession Negotiations. With a decade of teaching experience across various educational levels, from primary school to university, Klotilda has consistently demonstrated a profound commitment to education. Her extensive academic and professional experience provides her with the skills and flexibility needed to effectively support and guide learners at various stages of their educational development.

122. Climate Change and Sustainability through Community Agroforestry and Land restoration in Rwanda

Atul Deshmukh, Silvia Pizzigoni, Protais HABANABAKIZE

ABSTRACT:

1. Framework: the scholarly knowledge base:

Climate change is not just an environmental issue but also a human crisis. This is particularly true in Sub-Saharan Africa, where it disproportionately affects communities, especially their most fragile portions, exacerbating the pre-existing inequalities and vulnerabilities. Clearing forests affect crucial services for communities and economies, including biodiversity, clean water, soil erosion, increase poverty and malnutrition.

2. Description of practical application:

The case study, a Terrafund project, located north of the Rusizi River in Rwanda, is a Tree Restoration Monitoring Framework to observe and analyze geospatial data and indicators. It engages local farming community in particular women and youth as driving forces, who have seen a significant environmental degradation through deforestation and soil erosion. The project also aims to improve living conditions and benefit vulnerable populations by creating jobs, improving market access, and ensuring food security. Additionally, the project's efforts to reduce soil erosion in the Rusizi River contribute to maintaining water flow for hydroelectric power stations, providing clean renewable energy to Rwanda, Burundi, and the DR Congo.

3. Outcomes:

The project shows how Tree Restoration improved living conditions and benefited vulnerable populations by creating jobs, reducing greenhouse gas emission and river-soil erosion, and ensuring food security.

4. Implications:

To achieve various UN sustainable development goals.

Keywords: Climate change, erosion, poverty, gender equality, land restoration, biodiversity

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