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THE ROLE OF BRADYRHIZOBIUM JAPONICUM EXOPOLYSACCHARIDES IN THE FORMATION OF AN EFFECTIVE SYMBIOTIC APPARATUS OF SOYBEAN

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ABSTRACT

There are a number of questions that have remained relevant for a long time when using inoculants based on nodule bacteria. It has been shown that exopolysaccharides (EPS) producing bacterial cells play one of the key roles during interaction and during signal transmission in legume-rhizobial symbiosis, namely, bacterial survival, virulence of rhizobia, shelf life on inoculated seeds and in soil, and efficiency created legume-rhizobial system. In particular, it was found that new strains of soybean nodule bacteria *Bradyrhizobium japonicum* LG 2 and LG 5 synthesize EPS at 3.2 and 2.8 g/l, with an optical density above 0.8 rel. units, the viscosity of the culture liquid – within 270-302 mPa • s. The high level of synthesis and the chemical composition of EPS of the studied strains ensured the preservation of the viability of bacterial cells on the surface of seeds and on a solid medium. Inoculation of soybean seeds with a culture liquid containing EPS of strains LG 2 and LG 5 ensured the formation of an effective legume-rhizobial system, which is confirmed by the formation of 18-21 nodules / plant of soybeans with a nitrogenase activity of at least 2.9 $\mu\text{mol C}_2\text{H}_4$ / plant per hour. A graph model has been developed, which proves the direct dependence of the effect of EPS on the number of nodules formed on the roots, the level of nitrogenase activity of the legume-rhizobial system and their indirect effect on the yield and protein content in soybean grain. Prospects isolated by strains LG 2 and LG 5 of *B. japonicum* for biotechnological production of liquid and gel biopreparations.

Keywords: exopolysaccharides, *Bradyrhizobium japonicum*, soybeans, inoculant, legume-rhizobial symbiosis, nitrogenase activity, nodules.

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DETERMINING CRITERIA IN TECHNOLOGY VALUATION THROUGH THE ANALYTIC HIERARCHY PROCESS: A CASE STUDY IN VIETNAM

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ABSTRACT

Technology valuation is a bottleneck in the process of commercialization and technology transfer. When applying valuation methods, there are many assumptions set out in the calculation. This article presents very first serious effort to analyse the Analytic Hierarchy Process (AHP) and its initiation in Vietnam. The AHP is a weight calculation method applied to evaluate the importance of each factor affecting technology valuation. However, the AHP has been applied to valuation work in only a few countries in recent years. In Vietnam so far, there has been no research on the AHP in technology valuation; the results of this study are expected to be a breakthrough for the application of the AHP in technology valuation. In this study, the research team uses Saaty's AHP to analyze and identify criteria affecting technology valuation in the current conditions of Vietnam.

Keywords: Technology Valuation, Analytic Hierarchy Process (AHP), Vietnam.

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EFFICIENCY OF USING ORGANO-MINERAL BIOPREPARATIONS AS ELEMENTS OF BIOLOGIZATION IN CHICKPEA CULTIVATION TECHNOLOGIES IN THE ARID SOUTHERN STEPPE OF UKRAINE

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ABSTRACT

The article establishes the effectiveness of three foliar feeding of chickpea plants with various organo-mineral biopreparations without the application of mineral fertilizers, as well as along with the application of N₃₀ at sowing and N₃₀ for fertilization. Such organo-mineral biopreparations are created on the basis of beneficial microorganisms and provide destruction of phytopathogens, as well as have a positive effect on the formation of legume-rhizobial symbiosis and productivity of chickpea, especially in climate change. It was found that fertilization of chickpea crops with Fulvo TE, Anti-stress, Polymicrostim, Extra and Root Most biopreparations on an unfertilized background provide 0,23-0,27 t/ha of yield increase. Against the background of mineral nitrogen application, when using Fulvo TE and Polymicrostim biopreparations, the maximum increase in chickpea grain yield was 0,34-0,30 t/ha, and when using Anti-stress biopreparation - 0,25 t/ha. The largest mass of 1000 grains of chickpea on an unfertilized background, which was 249,3 g, was obtained using Polymicrostim and Anti-stress biopreparations. In these variants, the protein content ranged from 25,17-25,53%, which is 0,84-1,20% more than the control variant. With the combined application of mineral nitrogen and the use of Anti-stress biopreparation, the protein content increased to 29,10%, and with the combined application of mineral nitrogen and the use of Seed Treatment and Root Most biopreparations, received the largest mass of 1000 grains of chickpeas, which was 258,3 g. Coefficient of utilization of chickpea plants introduced mineral nitrogen depended on weather conditions and the introduction of biopreparations. In particular, in 2019 with the use Amino and Anti-stress biopreparations it was 22,3-22,6% and increased with the use of Seed Treatment and Fulvo TE biopreparations to 46,8-50,4%. In 2020, when using the Amino biopreparation, the coefficient of utilization of chickpea plants introduced mineral nitrogen was 18,7%, which when using Polymicrostim and Fulvo TE biopreparations increased to 63,8-71,3%. On average, over the years of research, along with the application of mineral nitrogen, we can highlight the positive effects of Fulvo TE, Anti-stress and Polymicrostim biopreparations, which significantly improved plant growth and development, as well as the yield and grain quality of chickpea. These drugs are recommended for use in chickpea cultivation technologies as elements of biologization, especially in the arid Southern Steppe of Ukraine.

Keywords: organo-mineral biopreparations, elements of biologization, chickpeas, plant growth and development, yield, product quality, climate change.

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MANAGEMENT IMPLICATIONS WITH RISK MANAGEMENT FROM REGRESSION MODEL APPROACH: A CASE IN VIETNAM CONSTRUCTION SECTOR

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ABSTRACT

Coteccons Group (CTD) has done a good job in construction sector with many big projects and affirmed its brand. By using a combination of quantitative methods and qualitative methods including synthesis, inductive and explanatory methods. For quantitative analysis, the study is supported with OLS regression. And Data is collected from reliable internet sources and websites. Our study findings show that: because CTD Net profit (Y) has negative correlation with lending rate, inflation, VNIndex and exchange rate: governmental agencies need to decrease exchange rate little bit to increase net profit. It means that, for government agencies, Macro policies implied: economic development policies to limit the negative effects of exchange rate, and inflation, i.e not increasing much. Our limitation of research is that We need to propose more management strategies.

Keywords: macro influence, CTD net profit, stock price, cost management, micro and macro variables, JEL: M21, N1.

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AMPELOGRAPHIC EVALUATION OF THE MAIN PHENOLOGICAL, VEGETATIVE AND PRODUCTIVE CHARACTERS OF WHITE SHESH GRAPEVINE CULTIVAR, UNDER TIRANA CLIMATE CONDITIONS

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ABSTRACT

White Shesh is a native (indigenous) cultivar selected and cultivated in centuries from winemakers of Tirana's Shesh and Ndroq areas, in the middle of Albania, where it gets its name. Study was conducted during three consecutive years, 2019-2021, in a representative sample of 10 vines, in a nine years old vineyard, located in a flat land 76 m above the sea level, in Zallherr, Tirana. Observed results showed that under Tirana climate conditions, bud burst of White Shesh occurred in April 6, full bloom on May 28, berries veraison on August 2, grape maturity on September 27, and natural leaf fall occurred on December 15. Vegetative period extended 244 days and the period from blooming to harvest was 122 days. Three years mean of the sum of active temperatures (>10°C) was 2196°C and the sunlight radiance was 1267 hours. Insertion of the first inflorescence starts at 5-th node and each shoot generates 2 inflorescences. The flower type was hermaphrodite (fully developed of male and female organs). Bunches were medium dense, with a conical shape. Length was long 260 mm and weight was 410 g. Yield per vine was 3.1 kg or 117 quintals ha⁻¹. Berries were round and uniform with a mean weight of 3.2 g. Must yield was medium (63 ml juice 100 g berries⁻¹), total sugar content of must was medium (19%), and total must acid content (tartaric acid) was medium (6.4 g L⁻¹).

Key words: ampelographic, berries, characters, climate, descriptor, evaluation, flower, phenology, White Shesh.

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CONTINGENT VALUATION STUDY IN THE PREVENTION OF AIR POLLUTION IN CABANATUAN CITY

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ABSTRACT

Air pollution is a worldwide problem that needs to be address. Climate change and human health effects are considered the major concerns on this event. On this note, one of the policy tools that could help to resolve the issue is by adopting the contingent valuation method (CVM). CVM is a stated preference approach and can be done through conducting a survey which directly asks the respondent's willingness to pay (WTP) towards a service (i.e. contingent scenario). This paper identified the socio-demographic profiles of the residents in Cabanatuan City, assessed their knowledge and attitude about air pollution and its prevention, policies and programs currently implemented in each selected barangays, described the willingness to pay of the respondents in relation to contingent scenario, and assess the relationship between the profile and the respondents' WTP. Respondents have very high knowledge in the concepts of air pollution that leads to a very positive attitude regardless of their socio-demographic profiles. However, Logistic regression analysis revealed the insignificant relationship between the respondents' profile to their WTP. Respondents have very high knowledge and very positive attitude, which contributes to the positive WTP. Hence, a positive outcome in WTP. Therefore, residents are willing to pay and prevention of air pollution has a potential market value for the city.

Keywords: contingent valuation methodology, air pollution, willingness to pay, knowledge

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SAFFRON (*Crocus sativus* L.) AS A PROSPECTIVE AND SAFE NATURAL TREATMENT FOR MENTAL DISORDERS

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ABSTRACT

Natural treatment for various health conditions is growing more and more popular since the evidence of greater safety comparing to conventional chemical drugs. Saffron (*Crocus sativus* L.) is a prospective herbal remedy for people suffering from mental disorders and facing health issues with synthetic psychotropic drugs. The number of studies devoted to investigating the efficacy of saffron efficacy in various psychiatric conditions is gradually increasing. It is a need to incorporate the scientific evidence on this herbal agent in the form of a meta-analysis. The objective of this study was to evaluate the real efficacy of saffron in major depressive disorder (MDD), sleep disorders (SD), and anxiety compared to placebo using up-to-date data, available in randomized placebo-controlled trials (RPCT) published in PubMed, Scopus, and Web of Science Core Collection journals. Meta-analyses were performed in Meta-Mar using the standardized mean difference (SMD) model using five RPCTs regarding MDD, four on SD, and two – regarding anxiety. The results of the meta-analyses proved that saffron is significantly superior to placebo for all the studied mental disorders and could be recommended as an alternative for synthetic antidepressants in MDD. More clinical trials are required to surely recommend saffron for the treatment of SD and anxiety-related mental disorders.

Keywords: anxiety, depression, herbal remedy, meta-analysis, natural drug, sleep disorder.

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BURNOUT RATE IN HEALTH PROFESSIONALS DURING COVID PANDEMIC-19

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ABSTRACT

Introduction: Burnout is defined as a state of physical, emotional and mental fatigue that results from long-term involvement in work situations that require great intensity for work. According to Maslach burnout is a multidimensional syndrome that includes emotional fatigue, depersonalization, and diminished sense of personal accomplishment. Purpose: Is to determine the degree of burnout at work of health care workers caring for patients with COVID-19 at the Gjakova Regional Hospital. Methodology: The working method used is a quantitative method. Most are the health workers - nurses and doctors during the Covid-19 pandemic. The work is carried out at the General Hospital of Gjakova. The instrument for data collection is the questionnaire Burnout Inventory from Maslach. Results: the research found that the burnout rate at work among health careworkers at the regional hospital was high. The level of emotional fatigue is found in 42.9% of health workers. The main source of stress identified by workers was overwork and coping with a patient infected with Covid-19. The level of depression was high at 54.3% and the level of personal results was low at 85.7%. Chi-square analysis for emotional fatigue (p .228), depersonalization(p .456), and personal success (p .346) with the question of whether you have contact with people with Covid-19 has no significant value. Also the Chi- square analysis for emotional fatigue (p .635), depersonalization (p .193) and personal success (p .199) with the question of whether you have been infected with Covid-19 has no significant value. Conclusion: The high level of burnout in health workers should be monitored in order to identify individuals who require great care and support.

Keywords: burnout, healthworkers, Covid 19 pandemic.

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USING OLS MODEL TO ANALYZE MACRO INFLUENCE ON BANK PROFIT AND PROPOSALS FOR BETTER BANK MANAGEMENT

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ABSTRACT

BIDV Bank (BIDV) in Vietnam maintained a higher growth rate than the industry average on all indicators of scale, quality, efficiency, and labor productivity and became Best retail bank in Vietnam in recent years. By data collection method through statistics, analysis, synthesis, comparison, quantitative analysis to generate qualitative comments and discussion; using econometric method to perform regression equation and evaluate quantitative results, the article analyzed and evaluated the impacts of EIGHT (8) macroeconomic factors: BIDV profit (Y) has negative correlation with inflation and lending rate, whereas it has positive correlation with risk free rate and stock price. We also recognize that Rf, GDP growth and lending rate have the highest impact on BIDV profit. This research finding and recommended policy also can be used as reference in policy for commercial bank system in many developing countries.

Keywords: bank net profit, stock price, GDP growth, inflationary, risk free rate, lending rate.

JEL: M21, N1

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REGULATORY REFORMS FOR STRUCTURED GREEN FINANCE: EXPLORING THE CASE OF INTERNATIONAL FINANCE SERVICE CENTRE, INDIA

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ABSTRACT

Sustainable infrastructure is essential for a brighter future when India has committed to starting its decarbonization journey to accomplish specific green targets. According to IEF Survey, India would need infrastructure investments of US\$ 777.73 billion by 2022 if it wants to expand sustainably. To fulfil the Sustainable Development Goals (SDGs) and Paris Agreement, the emerging economies are shifting toward low-carbon avenues, wherein green investment and ESG-enabled bonds are among the most sought-after alternatives. Given these trends, India intends to issue green bonds and refer to climate action as the "sunrise sector. To augment the goal of net-zero emission and boost financing in infrastructure, the Government of India has been working on strengthening the international finance service centre (IFSC) in India to attract the world global financial Institutional investors, such as international banks, pension funds, investment banks, insurers and sovereign wealth funds and also to match up with Public policy priorities are quickly shifting to include green financing. International Financial Service Centre Authority (IFSCA) was established by the Government of India in 2020 under the International Financial Services Centers Act 2000. Just after its establishment, the first breakthrough in green financing and fulfilling the needs of the environment, social welfare, and governance were that it suggested a new framework for Green Bonds at the International Financial Services Centre (IFSC). This paper examines changes in green financing with particular reference to IFSC Initiatives in India, which eventually contribute to the SDG 2030 agenda to which India is a signatory and analyze its critical issues, challenges and developing regulatory aspects.

Keywords: Green Bond, Green Finance, International finance service centre, SDG, ESG, Investment.

USING NEW MODEL APPROACH FOR ENHANCING RISK MANAGEMENT MECHANISM IN A CASE OF VIETNAM LISTED BANK

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ABSTRACT

The purpose of this study is to figure out what are results of VAR model - a New Model approach for Enhancing Risk Management Mechanism in case of Vietinbank CTG in our country. This study mainly use combination of quantitative methods (statistics, calculation formulas) and qualitative methods including synthesis, inductive and explanatory methods. The research findings tell us that - Risk free rate reduce in short term will reduce beta; second, Industrial manufacturing stabilize in medium term will cause beta CTG stable; third, Also we see that increase in lending rate in medium term will cause beta CTG increase; fourth, a reduction in trade balance in short term will reduce beta, but in long term, stability in trade balance will stabilize beta CTG; fifth, Fluctuation in exchange rate will influence beta, in long term recover and increase in exchange rate will stimulate beta increase. Hence, authors would recommend that: Ministry of Finance, State bank of Vietnam, Treasurer, and relevant agencies need not to increase Rf (to increase bank beta); then, Not increasing lending rate too much to increase beta; next, Not increasing trade balance too much as well. Last but not least, Management implications: Improving MIS system to provide information. Besides, this study also give out recommendations for enhancing socio-economic roles of Vietnam banks in future.

Key words: socio-economic roles, VAR approach, risk model, Vietnam banks, beta CAPM, inflation, economic development, Vietnam

JEL: M21, G30, G32, G38

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SUSTAINABLE ENVIRONMENT AND THE IMPACT OF ECOTOURISM IN AURORA PROVINCE IN THE PHILIPPINES

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ABSTRACT

Sustainability was defined as the goal of meeting present needs without affecting future generations' capability to fulfill their own. With the growth of tourism economy, sustainability is an increasing concern in tourist destinations like Philippines. This study correlates the socio-demographic and socio-economic profile of the respondents towards sustainable environment practices and the impact of ecotourism. Using purposive sampling and mixed methods design, 168 individuals from municipalities of Aurora province positively implied on the use of renewable resources, ecosystem protection, pollution control, and the concept of reduction, reuse, and recycling. Locals have positive attitudes toward conservation as they believed that there is an established system for conservation and initiated conservation practices. Pearson Correlation found that there was no significant relationship between the profile and their sustainable environmental practices. Moreover, a weak negative relationship between age and the perceived impact of ecotourism was determined indicating that age decreases with the increasing perceived impact of ecotourism on the measured parameters. The impact of ecotourism on community has its advantages and disadvantages. It generates work opportunities, making the residents self-sufficient, yet to improve ecotourism and preserve the environment, innovations are needed. The impact of ecotourism was also prominent as Indigenous Peoples are displaced due to commercialization, increased local migration in the area, and locals adopting different cultures brought by ecotourism. The cultures and sustainable practices of the Indigenous Peoples are valuable and needs to be preserved the same with the environment. Hence the people and the government should be united and proactive in promoting sustainable ecotourism.

Keywords: Ecotourism, Sustainability, Environment, Philippines.

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THE EFFECT OF BUOYANCY AND ROTATION ON THE FLOW AND THERMAL FIELDS AROUND A CIRCULAR CYLINDER

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ABSTRACT

In this paper, a numerical simulation has been performed to study the fluid flow and heat transfer around a rotating circular cylinder over low Reynolds numbers. Here, the Reynolds number range 10 - 40, and the values of rotation rates (α) is varied within the range of $0 < \alpha < 2$. Two-dimensional and unsteady mass continuity, momentum, and energy equations have been discretized using finite volume method. SIMPLE algorithm has been applied for solving the pressure linked equations. The effect of rotation rates (α) on fluid flow and heat transfer were investigated numerically. In addition, time-averaged (lift and drag coefficients and Nusselt number) results were obtained and compared with the literature data. A good agreement was obtained for both the local and averaged values.

Keywords: unsteady flow, rotation rate, Richardson number, circular cylinder.

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RESILIENCY AMIDST VULNERABILITY: A STORY OF THE INDIGENOUS CULTURAL COMMUNITIES-INDIGENOUS PEOPLES' EXPERIENCES IN MITIGATING THE IMPACT OF PANDEMIC IN THE PHILIPPINES

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ABSTRACT

Indigenous Peoples worldwide are most vulnerable to the impact of the pandemic. They are at a disadvantage when it comes to adequate access to health care services. However, traditional behavior, indigenous health practices, and belief systems make them more resilient to the public health crisis. The study is a narrative of experiences of Indigenous Cultural Communities/Indigenous Peoples' (ICCs/IPs') resilience to the pandemic in the province of Nueva Ecija in the Philippines. It used the mixed-method of research to gather and analyze data within the framework of the resilience-vulnerability model. Findings show that ICCs/IPs, seldom access health services in terms of health practitioners, health facilities, and medical supplies. Through their traditional practices, they develop resilience during the pandemic. While there is no significant relationship between resiliency and vulnerability, there is a significant relationship between the Demographic Profile and the Resiliency of the indigenous peoples. It is recommended that a similar study be undertaken using other ICCs/IPs in other parts of the country as the subject of inquiry to establish a segregated database on the government's access to health services.

Keywords: Resilience, vulnerability, health services, inequity, traditional health practice

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COVID 19 AND FACTORS AFFECTING VIETNAMESE PEOPLE'S CONSUMPTION BEHAVIOR IN FOOD HYGIENE AND SAFETY

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ABSTRACT

In the last two years, Covid 19 has brought heavy consequences on the economy, society and public health of Vietnam. And the origin of this pandemic is believed to be from the consumption of wild animals in China. Besides, the issue of food hygiene and safety in Vietnam is always a painful issue which has not solved until now. Therefore, the topic "Covid 19 and factors affecting Vietnamese people's consumption behavior in food hygiene and safety" was chosen with the desire to contribute a part of solving these problems, contemporary issues of the country in the present and the near future. Research has shown that there are 7 factors affecting consumer behavior including: lifestyle, awareness, knowledge, beliefs, news, Covid 19 pandemic, influencers; and those factors impacted to the consumers with different levels. Hopefully the research results will be the foundation for marketers to come up with appropriate marketing strategies, towards the sustainable development of Vietnam.

Keywords: Covid-19, consumer behavior, food hygiene and safety, life style, awareness, knowledge, faith, news, epidemic, influencers.

JEL: M10, M21

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INVESTIGATE THE BUSINESS MODEL OF ECO VILLAGE THAI HAI

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ABSTRACT

Vietnam is on the way of development quickly and its enterprises follow different styles. The Eco Village Thai Hai has followed the special model that we cannot find from anywhere in Vietnam. Authors mainly use methods of historicalism and dialectical materialism combined with experiences, observations with experiences, practical situation with cases studies in Vietnam combined with qualitative analysis. Through the current paper, the readers may find the unique and interesting model in Vietnam that attracted many people to visit and investigate.

Key words: business model, Eco Village, ethnic value, countryside.

JEL: M10, M21

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HOSPITAL WASTE AND THEIR IMPACT ON ENVIRONMENTAL POLLUTION AND HUMAN HEALTH

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ABSTRACT

Infections from hospital waste constitute the main challenge of protecting the environment and modern human health. For every year, infections from hospital waste have caused high toxicity of the environment and the health of the population, these infections, which affect hundreds of millions of people around the globe and are the main threat to the safety of living creatures. These infections cause very serious diseases, prolong the stay of patients in the hospital, cause long-term disability, increase the cost for patients and their families, affect massive additional costs in the system of environmental and health protection, and often the affected end up with death. Infections during health care are caused by many factors, which are related to the system and process of providing health care. They are also related to people's behaviors that are conditioned by educational, economic and political limitations in the states themselves, health protection systems, and often also in social norms and beliefs. For their definition, definitions of nosocomial infections are used worldwide, according to the Centers for Disease Control-CDC (Centers for Disease Control) from Atlanta. Health services, including public and private health institutions, must meet quality standards (ISO 9000 and ISO 14000).

Key words: Hospital waste, environment, human health, infections.

Vol. 12 (4): 151-160 (2022)

EVALUATING IMPACTS OF A SIX FACTOR MODEL ON CCI STOCK PRICE: A CASE OF A LISTED TRADING COMPANY IN VIETNAM

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ABSTRACT

This study considers the impacts of multi macro factors on stock price of Cu Chi Trading company CCI, and it contributes to promoting business plan and economic policies for economic growth and stabilizing macroeconomic factors. By data collection method through statistics, analysis, synthesis, comparison, quantitative analysis to generate qualitative comments and discussion; using econometric method to perform regression equation and evaluate quantitative results, the article analyzed and evaluated the impacts of six (6) macroeconomic factors on stock price of CCI in Vietnam in the period of 2014-2019, both positive and negative sides. Study results, in a six-factor model, show that an increase in GDP growth has a significant impact on decreasing CCI stock price (Y) with the highest coefficient of impact, followed by a decrease in lending rate and increase in risk free rate, then a decrease in VNINDEX, a reduction in inflation and increase in exchange rate.

Keywords: CCI stock price, GDP growth, inflationary, risk free rate, market interest rate.

JEL: M21, N1

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SOLVING CONFLICTS OF INTEREST IN ELECTRONIC CONTRACTS IN E-COMMERCE TRANSACTIONS

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ABSTRACT

In emerging markets such as Vietnam, electronic contracts have been used more and more and e-transactions have been increasing over years since the time Vietnam allows internet. There are problems arising from e-commerce, seriously implementing, implementing and effectively coordinating the fight against counterfeit goods and goods infringing intellectual property rights on the Internet. Internet environment, and at the same time improving the role and responsibility of businesses owning e-commerce websites in protecting consumers, etc. Beside, in order to protect the interests of consumers, sales acts such as advertising, providing false information are strictly prohibited; The seller must provide detailed and specific information related to products, goods and services. This helps to ensure that consumers are aware of the expiration dates of the products they are purchasing on the e-commerce platform, and it is the responsibility of all sellers as well as e-commerce businesses to update and provide information to consumers, consumption.

Key words: disputes, protect consumer interests, conflicts of interest, e-transactions, Vietnam

JEL: O11, O14, K10, K15

Vol. 12 (4): 167-172 (2022)

ASSESSMENT OF MIGRATORY AND RESIDENT BIRDS AT RAGHAGAN DAM, DISTRICT BAJAUR TEHSIL SALARZAI, KPK

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ABSTRACT

The study is conducted to document the species richness and abundance of the migratory and resident birds at Raghagan dam district Bajaur. Raghagan dam is situated N 34.800307°, E71.580137° in tehsil salarzai of district Bajaur which is located at the extreme end of Himalayan range and creates variations in the monsoon rainfall from month to month and year to year. The dam support population of migratory bird and important stopover for migratory and native birds. The study is conducted in the month of March 2022 through direct focal observations and binoculars, therein 13 migratory species and 25 resident species are recorded with total numbers 895 and 711 respectively. The highest relative abundance among migratory birds species is family Anatidae followed by phalacrocoracid and the highest relative abundance among resident bird species is family Accipitridae followed by Columbidae. The area has potential for avian biodiversity thus concrete efforts are required to protect the birds diversity. Presence of ferruginous duck species in the month of May shows food richness, further research is required to know the causes and factors behind the presences of such duck species Effective management and monitoring of the dam should be in priority actions. Illegal hunting is another harmful factor for the killing of birds.

Keywords: Abundance, Birds diversity, Family, Species richness, Potential.

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ROAD SAFETY IMPACTS OF SIGHT DISTANCE CRITERIA ACCORDING TO ALBANIAN CODE

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ABSTRACT

Sight distance is an important criterion in highway geometric design for traffic safety to ensure that the driver can see any possible road hazard insufficient time to take action and avoid an accident. Many Albanian roads have been designed and constructed before 1991 based on standards in place as of the construction time. More recently, investments have been made for upgrading and expanding the transport infrastructure in the country. The importance of providing adequate sight distance for safe and efficient traffic is well recognized by researchers and included in most design manuals. Horizontal curves, crest vertical curves, and rural intersections are the common sight restrictions considered in highway design. Stopping sight distance (SSD) is the most important of the sight-distance considerations since sufficient SSD is required at any point along the roadway. Technical road standards used in Albania before 1991 were based upon outdated standards. Currently, road design standards have been changed receiving considerable European standards. This paper analyses the sight distance estimation criterion using the upgraded manual. For this purpose, road design examples have been studied based on sight design requirements and geometric data. The results obtained through calculation were compared according to upgraded standards to investigate road safety associated with highway geometric design.

Keywords: Highway design, sight distance restrictions, road safety.

Vol. 12 (4): 181-188 (2022)

SOLUTIONS FOR INDUSTRIAL CLUSTERS FOR SOCIO-ECONOMIC DEVELOPMENT IN HANOI CITY AND PROTECTING CONSUMER INTERESTS

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ABSTRACTS

This study aims to explore What are contents of consumer interests protection? And What are solutions for industrial clusters to grow in future? By using qualitative analysis, inductive and synthesis methods, our study findings show that Rural areas are renovated and built a spacious, clean and beautiful market system, creating long-term budget revenue. Along with that, focus on investing in 5 wholesale markets, some of which meet international standards. In addition, developing models of night economy, sharing economy, developing vending machine system...Based on this finding, some management implications are also discussed such as The important role of CSR activities in building trust and firms' reputation, especially CSR activities that show the interest of businesses in ethics and volunteer activities for the development of the community. Therefore, managers need to change their minds toward CSR activities. Finally, consumer interest/right protection when buying industrial products also needed to be consider.

Keywords: industrial clusters, Hanoi, consumer interest, protection, Vietnam.

JEL code: M10, M21

Vol. 12 (4): 189-194 (2022)

WHICH SUITABLE MODEL FOR DEVELOPING INDUSTRIAL CLUSTERS IN HANOI VIETNAM? AND MATTERS OF PROTECTING CONSUMERS IN CLUSTERS

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ABSTRACT

Our paper will present suggestions for suitable models for developing clusters today. Development and great contributions of industrial clusters are undeniable. However, the process of developing industrial clusters in Hanoi still has many challenges and inadequacies. Our study shows that, we can analyze some models, however, there has been considerable debate concerning its effectiveness, and indeed its appropriateness as a policy framework. And It is necessary to regularly organize and integrate regulations on consumer protection in many relevant documents and fields. Last but not least our analysis can be applied for many industrial clusters (IC) in Vietnam not only in Hanoi city.

Key words: physical infrastructures, clusters, suitable models, Hanoi, protect consumers

JEL: M1, M21, K10, K15

Vol. 12 (4): 195-204 (2022)

THE PROTECTIVE EFFECT OF *ASTRAGALUS ARMATUS* ON CARDIOVASCULAR DISEASES INDUCED BY HYPERHOMOCYSTEINEMIA IN MICE

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ABSTRACT

Our research aims to determine the protective effect of the *Astragalus armatus* extract on plasma homocysteine (Hcy) rate, lipids, antioxidant enzymes and histological abnormalities of aorta and heart, in hyperhomocysteinemia (HHcy) induced by high-methionine diet in mice, which is an independent risk factor for cardiovascular diseases. Twenty eight adult male *Mus Musculus* mice were divided into four groups, the control group (F) was fed with white bread, group (M) was fed with L-methionine, group (PM) was fed with L-methionine plus *A. armatus* extract, and the group (P) was treated with *A. armatus* extract. After 21 days of treatments, Hcy concentration, lipid parameters, hepatic antioxidant status and histological sections of aorta and heart were determined. Consumption of high methionine diet resulted in a significant increase in plasma Hcy. Furthermore, we detected an increase in lipid parameters concentrations, and a decrease in HDL-c, glutathione reduced (GSH) and catalase (CAT) activities. These results are associated with the appearance of pathological alterations in the aorta and the heart organs. While the administration of *A. armatus* extract with L-methionine caused: a decrease in Hcy concentration and lipid parameters, an increase in GSH and CAT activities, and an improvement in histological changes. Our data showed that *A. armatus* extract is effective in: decreasing plasma Hcy levels and lipid parameters, reducing oxidative stress by increasing antioxidant status and protecting aorta and heart tissues in mice fed a diet rich in L-methionine.

Keywords: Hyperhomocysteinemia, *Astragalus armatus*, lipids status, Glutathione, Catalase.

Vol. 12 (4): 205-212 (2022)

THE IMPORTANCE OF NUTRITION BASED ON INDIVIDUALIZED TEMPERAMENT (MIZAJ), FROM THE VIEW POINT OF TRADITIONAL PERSIAN MEDICINE AND THE FINDINGS OF MODERN MEDICINE

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ABSTRACT

Objective: Nutrition is one of the most important factors today in prevention and maintaining health, as well as in treatment of diseases. Despite many efforts, the challenges related to nutrition are becoming more and more common every day. Persian medicine is one of the oldest medical approaches in the world, and nutrition has a special and fundamental place in this medical thought. So much so, that a large portion of Persian medicine is related to nutrition. Individualized nutrition in Persian medicine based on temperament (Mizaj) is well in correspondence today with the topic of nutrigenomics or nutrigenetic, or epigenetic, and strongly proposes a unique model of nutrition in a strategic way. This study focuses to describe the importance of nutrition based on individualized temperament from the perspective of Persian medicine and the findings of modern one. *Materials and Methods:* This study is a narrative literature review using keywords including Persian medicine, Traditional Persian medicine, temperament (Mizaj), nutrition, individualized nutrition, individualized medicine, precision nutrition, functional food, bioactive food, nutrigenomics, nutrigenetic, epigenetic, and TEF, in Persian and English were used to explore related articles in databases such as Pub Med and also using Google Scholar, without any time constraints. Extracted articles were carefully studied. Also, Persian medicine books and conventional medicine ones were studied. The relevant content were collected, reviewed and the results were written in the form of individualized nutrition, based on temperament. *Findings:* According to the principles of Persian medicine, the temperament of every healthy person is based on a balanced and specific range. Maintaining this range and its balance is cornerstone to a healthy person. On the other hand, and from view point of Persian medicine, all foods and drinks have their own temperament too. A review of modern scientific sources also shows that these topics have been considered by common medical science and in these sources, topics such as individualized nutrition and individualized medicine along with topics such as nutrigenomics, epigenetic, and nutrigenetic have been addressed. Also, the discussion about the quality of the effect of foods on the body of people, which has been presented in the form of functional food, is in accordance with the statements of Persian medical scholars about possession of different temperaments for foods. *Conclusion:* Findings of this article strongly suggests that, what current medicine emphasizes today on individualized nutrition that is essential to promote human health, which is known in the traditional Persian medicine, as personal temperament. Thus combination of traditional Persian medicine recommendations (in the form of holistic medicine), and modern medical science recommendations (in the form of analytic medicine), is essential to accelerate developments in the medical sciences.

Keywords: Persian medicine, modern medicine, individualized nutrition, temperament (Mizaj), individualized medicine, functional food, epigenetic, nutrigenomics, nutrigenetic, holistic medicine, partial medicine.

Vol. 12 (4): 213-226 (2022)

FREEGANISM IN CONSUMPTION SOCIETY: A NETNOGRAPHIC RESEARCH STUDY

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ABSTRACT

Today, the natural resources that are vital for human life have become scarcer, and even some of these resources are about to reach the point of depletion. Within the scope of green marketing, environment and nature are concepts directly related to Freeganism. One of the main reasons for this outcome is the excessive consumption caused by consumerism worldwide. A few communities against this consumption frenzy exist, mainly in North America and Europe. A leading one among these communities is freegans who employ anti-consumerist strategies within the freeganism movement. In this context, the aim of the study is those freegan consumers who are against excessive consumption in line with constantly changing consumer behaviours; To determine the perspectives on the concepts of consumption, excessive consumption and Freeganism. It is also to determine whether the structure and dynamics of the Freeganism virtual community affect in-community behaviours and to define the role of the interactive world and other studies in this community. For this purpose, qualitative data analysis was carried out through Nvivo using netnography research on a freeganism group with the most Facebook members between 01.03.2019 and 01.03.2021. In conclusion, it was found that Freegans, who are known for their opposition to excessive consumption, perform dumpster diving or waste food collection under six different themes: *financial inadequacy, lifestyle, thinking of recycling, feeling of socialization, benevolence, work and profession.*

Keywords: Anti-Consumption, Dumpster Diving, Freegan, Freeganism, Society, Green Marketing.

Vol. 12 (4): 227-234 (2022)

SPACIO-TEMPORAL DYNAMIC OF THE VEGETATION AND DEGRADATION FACTORS OF THE VEGETATION COVER AROUND LAGDO LAKE, NORTH CAMEROON

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ABSTRACT

Lagdo lake with an area of 586 km² is a dam lake located in the North Region of Cameroon. It is under the influence of silting and siltation. These phenomena are becoming more and more widespread to the point where the hydroelectric dam is now threatened for the production of electrical energy. The objective of this study is to map the dynamics of land use between 1973, 2000 and 2020 and to determine the factors that affect the vegetation cover around Lagdo Lake. The methodology adopted consisted of identifying land cover units and determining the factors that are responsible for land cover degradation. Landsat images from 1973, 2000 and 2020 and survey data from 416 farmers in the area were used. The results show that the study area has undergone an advanced spatial and temporal change over the period 1973-2020. This change reveals that the average annual regression rates for vegetation formations are -3.21% and respectively -0.88% and -2.33% for tree and shrub savannahs. On the other hand, an increase was observed in anthropogenic formations such as mosaics of bare soil and farms (43.41%), and buildings (0.52%). From 1973 to 2020, anthropogenic formations (buildings and mosaics of bare soil and farms) have progressed to the detriment of natural formations (shrubby savannahs and tree savannahs). These natural formation paned from -37040.5 ha between 1973-2000 to -439284.5 ha between 2000-2020 to the benefit of built-up areas and mosaics of bare soil and farms. The mutation of this vegetation is due to anthropic pressures linked to agricultural activities (20±11.24%), fishing (9.5±3.29%), pastoral activities (8.65±9.51%), vegetation slash and burn (17±8.8%), poorly controlled urbanisation (5.1±5.78%) and demographic pressure (17±8.23%). However, agriculture remains the main factor for the degradation of vegetation cover. Considering the accelerated rate of the degradation of the vegetation cover of the said lake, the energy production of the Lagdo dam would cease in the future years.

Key words: Vegetation dynamic, lake silting, Lagdo, North Cameroon.

Vol. 12 (4): 235-244 (2022)

THE USE OF GEOGRAPHIC INFORMATION SYSTEMS IN PREVENTING ILLEGAL EXCAVATIONS FOR THE DESTRUCTION OF CULTURAL HERITAGE

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ABSTRACT

Accessibility between illegal excavation sites that destroy cultural assets and gendarmerie stations responsible for public order and security is an issue that has not been studied until now. Geographic Information Systems are widely used in archaeological studies, but only for certain analyses. There are difficulties in obtaining data for archaeological studies focused on conservation and accessibility. The study area was determined as the provincial border of Antalya and 286 illegal excavations identified between January 2015 and May 2021 were reproduced by assigning random points in a unique frame. The current situation was examined using two different scales and the system was tested. Illegal excavation sites were matched with the closest 54 gendarmerie stations. The system efficiency was examined by calculating the time and distance costs of these routes. It is thought that measures can be taken against illegal excavations by increasing the accessibility of the gendarmerie station with the use of GIS. With the spatial analysis techniques used in the study, the areas where there is a lack of stations and the ways to be improved were determined.

Keywords: Geographic Information Systems, Spatial Analysis Techniques, Illegal Excavation, Accessibility, Antalya.

Vol. 12 (4): 245-250 (2022)

ACCUMULATION OF ZN AND CU BY CEREAL AND LEGUMINOUS VEGETATION UNDER AGROCHEMICAL IMPROVEMENT OF NATURAL FODDER LANDS OF THE RIGHT BANK FOREST STEPPE OF UKRAINE

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ABSTRACT

The article is devoted to the study of the translocation of heavy metals-trace elements (Zn, Cu) in the cereal-legume vegetation of natural fodder lands during their surface improvement (milling with the introduction of sugar-juice defecation sludge, NPK fertilizers) and root improvement (plowing the soil with the introduction of sugar-juice defecation sludge and NPK fertilizers). Based on the analysis of literary sources, it was established that as a result of man-made activities, the condition of fodder lands is deteriorating due to the ingress of toxicants, in particular, heavy metals. The research was conducted in the conditions of natural fodder grounds of the Right Bank Forest Steppe of Ukraine during 2017-2019. The determination of heavy metals in soils and plant material was carried out in the laboratory by the atomic absorption method. The hazard ratio of heavy metals in soils and biodiversity and the accumulation ratio of heavy metals were determined. It was established that in cereal and leguminous vegetation during the three years of vegetation of natural fodder lands in the zone of their local pollution due to surface improvement, the concentration of Zn increased from 1.01 times to 1.07 times, Cu - from 1.01 times to 1.02 times, while with root improvement, the concentration decreased for Zn content from 1.1 times to 1.25 times, and for Cu content - from 1.02 times to 1.55 times. At the same time, a tendency towards a decrease in the hazard coefficients and the accumulation of Zn and Cu in cereal-legume vegetation was noted with the root improvement of natural fodder soils compared to surface ones.

Keywords: heavy metals, natural fodder grounds, danger factor, accumulation factor, concentration, vegetation.

Vol. 12 (4): 251-258 (2022)

INFLUENCE OF ENVIRONMENTAL FACTORS ON THE FAUNA OF THE BLOOD-SUCKING HORSEFLIES (DIPTERA, TABANIDAE)

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ABSTRACT

This article summarizes the available literature data and research materials on the dependence of blood-sucking horseflies (Diptera, Tabanidae) on various abiotic factors, such as: light, air temperature, wind and humidity. In recent years, research on the daily and seasonal activity of horseflies in various territories has significantly expanded. The blood-sucking Diptera "gnats" include Mosquitoes (Culicidae family), horseflies (Tabanidae family), black flies (Simuliidae family) and midges (Ceratopogonidae family). Favorable weather conditions contribute to the emergence of new breeding biotopes (various reservoirs and swamp formations) for the development and reproduction of horseflies and imago habitat, as well as provide for a sufficient number of warm-blooded animals a source of blood. The damage depends on the number of these insects and can adversely affect the health of farm animals and humans due to the transmission of infectious and invasive diseases.

Keywords: blood-sucking horseflies, air temperature, light, humidity, wind.

Vol. 12 (4): 259-266 (2022)

INTERRELATION OF INDICATORS OF THE SUSTAINABLE DEVELOPMENT GOALS, POVERTY AND INNOVATIVE GROWTH

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ABSTRACT

This article examines the dependence of the indicators of the Sustainable Development Goals, as well as determining the position of the Russian Federation in achieving the indicators under consideration. The paper investigates the interrelation of indicators of the main Sustainable Development Goals that characterize the standard of living and innovative development. To determine the relationship between the indicators, as well as the grouping of countries to achieve these indicators. The paper uses methods of multidimensional statistical analysis. The results obtained allow us to draw conclusions about the relationship of the key SDG indicators.

Keywords: Sustainable Development Goals, standard of living, innovative growth, achievement of SDGs, achievement of SDGs in Russia, poverty, innovative growth.

Vol. 12 (4): 267-274 (2022)

APPROACHES TO ASSESSING AND SUBSTANTIATING MEASURES FOR FINANCING THE DEVELOPMENT OF TRANSPORT INFRASTRUCTURE IN THE ARCTIC ZONE OF THE RUSSIAN FEDERATION

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ABSTRACT

Being under the close attention of the global system, the Arctic plays an important role in the economic, political, social, and environmental development of the world community as a whole. Harsh and severe climatic conditions and mineral deposits' inaccessibility complicate the exploration, production, and development of Arctic resources. However, future changes in climatic conditions allow effectively realizing the economic potential of the Arctic shelf. In turn, the increase and opening of new land transport routes require an assessment and scientific justification of measures financing the development of transport infrastructure in the Arctic Zone of the Russian Federation with due regard to transport types, which determines the relevance of this scientific research.

Keywords: country's security, set of measures, scientific approaches, substitution, stronghold area, assessment, development, transport infrastructure, strategy, financing, economy.

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A REMARKABLE SYNERGIC EFFECT OF POLY (ACRYLIC ACID) HYDROGEL ANCHORED Pd CATALYSTS IN FORMIC ACID ELECTROOXIDATION REACTION

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ABSTRACT

Polymer-based catalysts have never been used before as anode catalysts in direct formic acid fuel cells. At present, Poly (acrylic acid), Poly (AA) was prepared and electrodes were constructed on graphite pencil (G) from these hydrogels. Furthermore, Pd doped Poly (AA)/G electrodes were prepared by employing electrodeposition techniques, and their formic acid electrooxidation (FAEO) activities were examined via cyclic voltammetry, chronoamperometry, and electrochemical impedance spectroscopy. These electrodes were characterized by DT-TGA, FTIR, and SEM-EDX. It was observed that Poly (AA)/G were prepared successfully. Poly (AA)/G electrode exhibited promising electrocatalytic activity as a DFAFC anode catalyst. By the modification with Pd, the FAEO activity increased for Poly (AA)/G with 38 mA/cm² current density, greater than literature values. In conclusion, it is clear that these Pd doped Poly (AA)/G electrodes have superior activity towards formic acid electrooxidation.

Keywords: Formic acid, electrooxidation, Pd, Poly (acrylic acid), electrodeposition

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LEGAL PROVISIONS FOR THE SUSTAINABLE DEVELOPMENT OF BIORESOURCE CENTERS IN RUSSIA

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ABSTRACT

Bioresource centers are relatively novel subjects of social relations, which are actively developing in the national economic space in association with the development of biomedicine, biopharmaceuticals, and other innovative spheres. The creation and operation of such centers as economic entities needs to rely both on regular and special legal regimes. At present, due to the novelty of bioresource centers, the regulation of their operation is fragmentary. The paper develops substantiation for the development of a possible doctrine-level model (models) of legal regulation of the activities of bioresource centers and the main requirements imposed on them as special economic entities. Relying on the analysis of the interests of the public, state, and business and considering the present challenges, threats, and risks of biotechnology development, the legislator can adopt one or another approach as a foundation for further regulation. The topic is developed through general scientific research methods (systemic, theoretical, and historical analysis) and the specialized methods of comparative legal science, logical and technical-legal analysis, concretization, and interpretation. The purpose of the study is to disclose the ontology of the category of bioresource centers, propose a legal regime for their regulation, and investigate various models of bioresource centers and the possible pathways of their development. The study explores Russian legislation regulating the creation and activities of bioresource centers, determines the optimal strategies for their development, formulates a definition of a bioresource center, demonstrates the effect of such centers on the bioeconomy, and argues for the importance of developing bioresource centers for medicine and pharmacology.

Keywords: bioeconomy, bioresource centers, sustainable development, legal regulation, legal regimes, modeling.

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DEVELOPMENT OF BANK CREDITING OF SERVICE ENTERPRISES

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ABSTRACT

The article is devoted to the substantiation of approaches to the development of bank crediting of service enterprises. It is established that on the part of service enterprises, it is necessary to take measures aimed at the use of unrealized opportunities to strengthen their financial condition, proper justification of the need for bank credits, their security, and compliance with the terms of repayment, as well as improving the level of preparation of loan applications and supporting documents. Most of these measures are found to be determined in the process of business planning of the financial activity of service enterprises in the medium term. It is proven that among the measures of the microeconomic level, which should be taken by banks, especially relevant is increasing the objectivity of assessment of the financial condition of service enterprises and the feasibility of crediting the business plans proposed by them. In this case, standardization of credits provided to service enterprises is very important.

Keywords: bank crediting, business planning, development, financial condition, risks, service, standardization.

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METHOD OF PHYSICAL EDUCATION AND HEALTH WORK IN MUNICIPAL PRESCHOOL EDUCATIONAL ORGANIZATIONS: DEVELOPMENT OF PHYSICAL QUALITIES IN SENIOR PRESCHOOL CHILDREN

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ABSTRACT

A prerequisite for the success of the preschool educational process is the development of the content of physical education and health work in the preschool educational organization in compliance with state standards. The purpose of the study is to develop and test a program for the development of speed, dexterity, strength, flexibility, and endurance in senior preschool children. The study is conducted on the basis of three kindergartens in the city of Chelyabinsk, Russia. The total sample includes 156 children of senior preschool age (6-7 years old). The children are divided into two groups: the experimental and the control. The obtained experimental results prove the effectiveness of the proposed model of the daily motor regimen of senior preschool children.

Keywords: speed, dexterity, strength, flexibility, endurance, children, training.

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