

INSTITUTE OF AGRICULTURAL ECONOMICS, BELGRADE, SERBIA

International Scientific Conference

**SUSTAINABLE AGRICULTURE AND
RURAL DEVELOPMENT IN TERMS
OF THE REPUBLIC OF SERBIA
STRATEGIC GOALS REALIZATION
WITHIN THE DANUBE REGION**

- achieving regional competitiveness -

Book of Abstracts

**December, 5-7th 2013
Hotel «OPLenAC», Topola - Serbia**

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FOREWORD

International Scientific Conference „*SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT IN TERMS OF THE REPUBLIC OF SERBIA STRATEGIC GOALS REALIZATION WITHIN THE DANUBE REGION - achieving regional competitiveness*“, which was held in period 5-7th December 2013 in Topola, the Republic of Serbia, through number of presented papers mainly provides an overview of results of scientific research on the integrated and interdisciplinary project no. III 46006 „*SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT IN TERMS OF THE REPUBLIC OF SERBIA STRATEGIC GOALS REALIZATION WITHIN THE DANUBE REGION*“.

Carrier of the Project, where is engaged 68 *scientific-educational workers*, is the *Institute of Agricultural Economics Belgrade*, which collaborates in realization of this project with 8 *scientific-educational institutions*. Project realization involves following Institutions: *Faculty of Agriculture - University of Belgrade; Faculty of Agriculture - University of Novi Sad; Faculty of Economics - University of Belgrade; Faculty of Economics Subotica - University of Novi Sad; Faculty of Biofarming Bačka Topola - Megatrend University, Belgrade; Institute for Science Appliance in Agriculture, Belgrade; Institute of Medicinal Plants Research Dr Josif Pančić, Belgrade; Center for Small Grains, Kragujevac.*

Mentioned Project is implementing within the period 2011-2014, and funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia. Realization of project is carried out through 3 *sub-projects*, having in mind regional specificities of agriculture and rural/peri-urban areas within the Danube Region:

- (1) *Sustainable agriculture and rural development in the Upper Danube Region;*
- (2) *Urban and peri-urban agriculture in the Metropolitan area of Belgrade - Novi Sad;*
- (3) *Sustainable agriculture and rural development in the Carpathians (mountain area within the National Park Đerdap and its protected zone).*

International Scientific Conference „*SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT IN TERMS OF THE REPUBLIC OF SERBIA STRATEGIC GOALS REALIZATION WITHIN THE DANUBE REGION - achieving regional competitiveness*“, gathered number of scientific workers and experts from many countries. Besides the authors from *Serbia* in *Thematic Proceedings* are also presented the papers of authors from *Bosnia and Herzegovina, Macedonia, Romania, Russia, Moldova, Slovakia, Ukraine, Germany, the Netherlands, Japan and Austria*.

After all 92 *papers* were positively reviewed by the reviewers and presented on the *International Scientific Conference*, they were published in the *Thematic Proceedings*. Proceedings publisher was *Institute of Agricultural Economics Belgrade*, together with 34 *eminent scientific-educational institutions* from Serbia and abroad. In the *Plenary Section* were presented 3 *papers* which gave significant contributions to *International Scientific Conference*.

Rest of the papers are systematized in 3 *thematic sections*:

I KNOWLEDGE ECONOMY AND HUMAN CAPITAL IN THE FUNCTION OF IMPROVING REGIONAL COMPETITIVENESS (section was represented by 45 papers);

II BIOREGIONALISM AND PERMACULTURE AS A CONCEPTS OF CONSERVATION OF ECOLOGICAL SPECIFICITIES OF RURAL AREAS (section was represented by 27 papers);

III THE CONSTRUCTION OF AGRO-REGIONAL IDENTITY THROUGH INSTITUTIONAL REFORM (section was represented by 17 papers).

Belgrade,

December, 2013

Editors:

Prof. Drago Cvijanović, Ph.D.

Jonel Subić, Ph.D.

Andrei Jean Vasile, Ph.D.

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PLENARY SECTION

PAPER BY INVITATION

RUSSIA'S MEAT MARKET: CURRENT STATE AND PERSPECTIVES

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Abstract

Analysis of dynamics and current state of the Russia's meat market is presented. The factors determining level of meat domestic consumption are discovered. Regional differences in meat consumption are considered. Tendencies of development of separate livestock industries are determined. It is concluded that an integrated approach to production and infrastructure development problems of meat subcomplex is required. The real-time data on the volume of meat imports in terms of Russia's WTO membership are presented. Directions and size of state support for the livestock industries in 2013-2020 are considered.

Keywords: *meat market, import, production, consumption, livestock industries, wholesale price, consumer price, integration, cooperation, state support*

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INDUCING TECHNICAL CHANGE: ASIA AND EUROPE

Masahiko Gemma¹

Abstract

The Induced Innovation Hypothesis treats relative scarcity of inputs as the major factor determining the direction of technical change in production activities. Technical change is generally induced for the direction of saving scarce inputs and using abundant inputs. However, there are cases in which institutions and policies determine the direction of technical change. This study examined the time-series data from Asian and European agriculture to derive general conclusions regarding the direction of technical change. Institutions and policies were found to be important determinants for the choice of technology besides relative scarcity of input resources. Policy implications were also derived for the future development of Serbian agriculture.

Key words: *Agricultural Development, Technical Change, Total Factor Productivity, Institutions and Policies, and Government Factor Market Interventions*

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PERSPECTIVES OF SOCIAL FARMING FOR IMPROVING REGIONAL COMPETITIVENESS IN AUSTRIA

Nina Weber¹

Abstract

In times of structural changes, social farming offers a source for an additional income for smaller family farms. In order to analyse the economic relevance of social farming activities, the structures of social farming in Austria were investigated. Throughout Austria, 600 farms offer social services in the fields of care, pedagogy and integration. Via an online questionnaire, personal, financial, and legal information was collected and analysed. After the evaluation of the collected information, obstacles and potentials for the sector were pointed out. The success of social farming depends on different factors of human capital, such as the personality of the farms' managers, the feedback and communication with the farms' surrounding environment, the relationship with the clients, etc. Other factors for success, such as the legal situation of social farms, the advisory and also the funding structures, are still in need of improvement.

Key words: *Social farming, family farms, competitiveness, diversification*

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I SECTION

***KNOWLEDGE ECONOMY AND
HUMAN CAPITAL IN THE FUNCTION
OF IMPROVING REGIONAL
COMPETITIVENESS***

ANALYSIS OF LABOR PRODUCTIVITY IN AGRICULTURAL HOLDINGS IN ROMANIA

Adrian Turek Rahoveanu¹, Maria Magdalena Turek Rahoveanu²

Abstract

This paper aims to analyze how they are dealt with economic and social phenomena and processes in agriculture, using as key productivity. The choice of this indicator was motivated primarily by the qualitative character of influence in the economic efficiency of farms. One reason for choosing this theme is the gap Romanian agriculture to agriculture in the European Union countries, which although is materialized on several levels, it is extremely worrying in this regard, the labor productivity. Labour productivity should be understood as the use of synthetic inputs, of course, given that labor is a variable factor illustrates the effectiveness of using other inputs.

Key words: *productivity, competitiveness, economic efficiency, agricultural exploitation.*

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THE ANALYSIS OF TECHNICAL AND TECHNOLOGICAL EFFICIENCY OF MUNICIPALITIES IN THE DANUBE REGION

Ana Anokić¹, Ivana Ljubanović-Ralević^{2,3}

Abstract

In this paper the authors use the DEA methodology for the evaluation and analysis of the total technical efficiency (TE) which also includes the pure technical efficiency (PTE) and scale efficiency (SE). Changes in the total technical efficiency (CTE) were analyzed using Malmquist's productivity index (MPI). The 25 municipalities that lie on the Danube and 40 municipalities that belong to the same regions, but do not lie on the Danube are analyzed in this paper. The aim of this study was to compare the technical efficiency and changes of the observed municipalities depending on the area to which they belong.

Keywords: *DEA methodology, Malmquist's index of productivity, technical efficiency, scale efficiency, technological changes*

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IMPLEMENTATION OF GLOBALGAP STANDARD AS THE COMPARATIVE ADVANTAGES OF THE SERBIA¹

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Abstract

Increased competition in the domestic market should improve product quality and supply. Implementation of GLOBALGAP type of standard in the agriculture can greatly increase a supply of high quality agricultural and food products and influence the positioning of Serbia as a leader in the production of high quality agricultural products. Foreign trade liberalization and the creation of a free trade zone, excluding the above uses, raises a number of challenges. In fact, there is a significant presence of foreign supply and increased competition in the market of agricultural and food products. It is realistic to expect a decline in the product price, which may be a problem for domestic producers reducing their income.

Keywords: *the Republic of Serbia, Globalgap, Standards, HCCP, CEFTA, EU*

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THE WINE MARKET IN COUNTRIES OF THE DANUBE REGION¹

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Abstract

A subject and a goal of the research are to perceive trends in production, export and import of wines in countries of the Danube region. Data source is the FAO and the International Trade Centre (ITC) database, in time period from 2007 to 2011. An average wine production in stated region amounts 2.7 milliard litres with tendency of moderate growth. The average wine export amounts 777 million litres. Export price is 2.2 USD per a litre. Import of wine of the group amounts 1.74 milliard litres. The global market of wine has been passed through a severe crisis, which has been caused, mainly, by climatic conditions. Reduced yield of vineyards and wine production will unavoidably lead to increase of wine price and will significantly impoverish its supply on the market. Besides a saturated international market, the market of wine in the region-countries has been pretty stable and without major fluctuations.

Key words: *Wine, production, export, import, Danube region.*

¹ The paper represents a part of the research at the project III - 46006 – Sustainable agriculture and rural development in terms of the Republic of Serbia strategic goals' realization within the Danube region, funded by the Ministry of Education and Science.

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THE MARKETING ORIENTATION ANALYSIS OF FRUIT AND VEGETABLE PRODUCERS IN BIH

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Abstract

This paper analyzes the business orientation of the producers of fruits and vegetables in BiH with the special emphasis and high attention to the marketing orientation. The study hypothesis is based on the fact that fruit and vegetable producers in BiH have outdated business concept and that they have no marketing orientation. The inadequate business concept significantly affects the weaker regional competitiveness. The paper traces the development of the business orientation of the fruit and vegetable producers in Bosnia since the war have ended in 1995. until today. The paper concludes that the fruit and vegetable producers in Bosnia, since the war ended, have passed through all stages rapidly, concerning developing business orientation, from the orientation of production, to the orientation to the product, but they failed to adopt and become masters of the marketing orientation and that is the main cause of their stagnation and also the main cause of the loss of competitive advantage in the region.

Keywords: *business concept, marketing orientation, manufacturers, competition*

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FACTORS OF AGRIBUSINESS COMPETITIVENESS OF THE REPUBLIC OF SERBIA

Danica Glavaš-Trbić, Goran Maksimović¹

Abstract

The authors first analyze the factors of agribusiness competitiveness of the Republic of Serbia and define the current competitive position of this sector in the global market. At the beginning of this paper, the authors provide an overview of the theory of competition and competitive advantage of companies, analyze some of the most important price and non-price factors that increase competitiveness, and finally, present the results of analysis of agribusiness sector in Serbia. The authors believe that the development of competitive advantages of individual agrarian subjects may improve long-term competitive position, and that the current bad situation of agribusiness is a reflection of the deep socio-economic crisis of the whole economy and society of the Republic of Serbia. Reforms are necessary at all levels, from individual products, individual industries, to the changes at sectoral and national levels. In this context, the authors emphasize the role of the state and suggest important measures to increase competitiveness and solve problems at the micro and macro levels.

Keywords: *Factors of Competitiveness, Competition, Competitive Advantage, Agribusiness, the Republic of Serbia.*

¹ This paper is part of research within the project No III 46006 named "Sustainable agriculture and rural development in the function of achievement of strategic goals in the Republic of Serbia within Danube region", financed by Ministry of Education, Science and Technological Development of the Republic of Serbia.

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THE ROLE OF SCIENCE TO DEVELOPMENT OF ECONOMY AND AGRICULTURE

Desimir Knežević,¹ Danica Mićanović²

Abstract

At the beginning of civilization, man has used plants from the nature, and collected plants with the largest fruit or roots, of which one of the seeds used for cultivation and domestication. On the base experience man developed methods for selection of improved species plants and agricultural technology. Discoveries of Mendel's law of traits inheritance, discoveries of inorganic fertilizers and its application are important scientific base for developing scientific farming technology and breeding enhanced genotypes. Discovery of structure DNA has influence to precisely plant breeding and led to developing of transgenic plants in the aim of increasing food production. Developing biotechnology directed to improve yield, quality and adaptability of crops under changeable climatic factor in the aim to solving problems of hunger, medicaments and power of economy.

Key words: *science, methodology, development, economy, agriculture.*

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THE YIELD VALUE OF BIOGAS POWER PLANTS*

*Dragan Milić, Nedeljko Tica***

Abstract

The use of energy originating from biomass beyond agricultural complex and the affirmation of agricultural sector, as an energy producer is only possible if the energy is transformed in a shape convenient for transport. As a rule biomass is not economic for transport and therefore is rarely a part of merchandise trade. The analysis given in this paper shows how effective are the investments made in the plants for biogas production. Yield value of the plant is much lower than the total investment amount. Regardless of the unfavorable relation between the yield value and the investment value, the conclusion should be brought only after a detailed analysis, a conducted feasibility study for each plant and the examination of a wider social interest and a contribution to agriculture, since this process also contributes the reduction of environmental pollution and creating organic nutrients for crop production.

Keywords: *biogas, investment, yield value, protect the environment*

* This research was financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia, within the project No. 46006, called: "Sustainable agriculture and rural development in function of the strategic goals of the Serbian part of the Danube region".

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HUMAN RESOURCES MANAGEMENT IN IMT A.D. NEW BELGRADE¹

Dragić Živković², Jovica Šutanovac³

Abstract

This paper considers management of human resources in company IMT New Belgrade. Human resources are the most important factor of production which has planned and creative ability to create and should be managed in a wise, rational and humane way. Organizational structure of IMT imposes need to human resources as an integral element of planning and organization offices and linked properly. Intensive development to the 90s marked this company as a national manufacturer of tractors and implements. Rapid decline in production caused 2012th the nationalization of company. All this has led to need for proper definition of functions of human resource management, through all it's elements such as: planning, recruitment, selection, socialization, training, evaluation of quality of staff training, staff development, salary systems and components of earnings, labor relations and collective bargaining, union organization of employees and their health, safety and welfare, complaints, discipline, retention and leaving company.

Keywords: *human resources management, recruitment and selection, training and salary system, health, safety and security, retaining staff.*

¹ This paper is a result of the research on the project No. 179028, financed by Ministry of Education, Science and Technological Development of the Republic of Serbia, entitled "Rural labor market and rural economy of Serbia - diversification of income and reduction of rural poverty".

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APPLYING THE MARKETING CONCEPT IN MODERN BUSINESS¹

Drago Cvijanović², Nebojša Stefanović³

Abstract

Marketing is a discipline which deals with market issues, needs on the market and ways of satisfying the needs. Marketing, as a business philosophy of intensive production, puts in a focus of its interests analyzing and recognizing all problems, which refer to turnover and sale of goods from producers to consumers. This field keeps developing and expanding with the market development, and aims to set a theoretical basis for business strategies on the market. In marketing theory, success on the market mostly brings together with understanding and satisfying the market needs (needs of consumers), but increasingly appear also new, more progressive concepts. In this concept of products and services projecting, starts from the consumers' needs and the consumers' satisfaction sets as a goal. In enterprises, in which has been completely applied the marketing concept, on consumers needs does not take care only the marketing department, but every employee, working with awareness that it is for the consumers' welfare.

Key words: *marketing concept, marketing management, marketing mix, organizational marketing design.*

¹The paper represents a part of the research on the project III - 46006 – *Sustainable agriculture and rural development in terms of the Republic of Serbia strategic goals' realization within the Danube region*, funded by the Ministry of Education, Science and Technological Development of RS.

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THE IMPORTANCE OF INNOVATIVENESS AND KNOWLEDGE MANAGEMENT FOR DEVELOPMENT OF RURAL TOURISM IN VOJVODINA

Dunja Vujičić¹, Ana Jovičić²

Abstract

The objective of the paper is to highlight the importance of knowledge management and innovativeness for the development of rural tourism in Vojvodina. Farmsteads in Vojvodina are representative facilities of rural tourism and innovative business ventures which have exceptional, though under-utilized tourism potential. Research methods used in the study include desk research, as well as an interview with the representative sample of farmstead managers. The results show that the majority of farms are planning to innovate the business in the future, where most ideas are acquired from guests, competition, and/or employees. According to the research results, farmsteads in Vojvodina still do not recognize the importance of knowledge management, due to the fact that a surprisingly large percentage of the respondents had never participated in educational activities that are important for business growth.

Key words: *Knowledge management, innovativeness, farmstead, rural tourism, Vojvodina.*

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ECONOMIC ANALYSIS OF WHITE WINE PRODUCTION COST¹

Dušan Milić², Branka Kalanović Bulatović³

Abstract

In 2011 in the observed winery 9,559 liters of Chardonnay wine and 22,184 liters of Sauvignon Blanc wine were produced. The cost price of one liter of Chardonnay wine is 285.56 RSD, which is 62.19 RSD higher than the cost price of one liter of Sauvignon Blanc wine which is 223.37 RSD. In the total cost of Chardonnay wine the largest share is the cost of raw material - grapes 37.53%, and concerning Sauvignon Blanc wine the largest share is the cost of packaging (32.18%), while the cost of raw material - grapes is significantly lower (19.49%). In 2012 the difference in the production costs of the analyzed types is significantly lower, the cause of this is the price of grapes which was the same for both types in 2012 and it was 45 RSD. The cost price of one liter of Chardonnay wine is 309.64 RSD, whereas of Sauvignon Blanc wine is 296.85 RSD. In the total costs the largest share is the cost of raw material – grapes, 32% for Chardonnay wine and 28% for Sauvignon Blanc wine. The other costs are the same for both types.

Key words: *economic analysis, costs, wine, Chardonnay, Sauvignon Blanc*

¹This paper is the part of results of project N⁰ III46006 financed by the Ministry of Science Republic of Serbia

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INTANGIBLE RESOURCES PROMOTION AND MANAGEMENT AS A MODERN CONCEPT FOR REGIONAL COMPETITIVENESS IMPROVEMENT

Duško Jovanović¹, Snežana Milićević²

Abstract

Competitiveness has become a natural law of the modern economy and it has been increasingly observed at different levels (national, regional, local) and from different perspectives. The regions are facing increasing competitive pressures, which encourages thinking about how to respond to the challenges of global competition. Regional competitiveness can be defined as a competitive advantage of a region over other regions. The strategic resources of regions are certain amounts of available factors that are owned or controlled. As a basis for achieving competitive advantage and creating added value, intangible resources, whose promotion and management are analyzed in this paper are authenticity, quality, technological resources, community relations and corporate culture, and we analyze them in terms of marketing and operational knowledge. In this way, the paper analyzes the possibility of regions branding, promotion of regional products, creation of regional clusters and a changed approach in the management of tourism development.

Keywords: *Regional competitiveness, intangible resources, marketing, branding*

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ACQUIRING REGIONAL COMPETITIVENESS WITH EXPORT OPPORTUNITIES OF SERBIAN AGRO-FOOD CLUSTERS

Gajo M. Vanka¹, Wim J. M. Heijman²

Abstract

This article collected and displayed information on export opportunities of agricultural and food products and analysed performance of some clusters and associations within industry/branches which operate in Serbian region. Producers were analysed in detail within agricultural and food production clusters, their problems and opportunities they encounter in domestic and foreign markets. Business analysis was carried out on two clusters, association and on their survival in domestic market. SWOT analysis managed to make good&viable cross section of agricultural production and food industry through its branches within which these clusters work. These branches are baking, wine, organic food production & dairy industry. Ethno tourism and the way it connects all of these food items of food industry is also analysed within this paper. In this way a complete picture of the clusters in the agriculture and food industry was gained.

Key words: *agribusiness, agro-food sector, clusters, competitiveness, macro & micro levels, Serbia, SWOT analysis*

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VERTICAL PRICE TRANSMISSION ALONG THE FOOD SUPPLY CHAIN: SERBIAN PORK MARKET¹

Ivan Djurić,² Danijela Petković³

Abstract

In this paper we analyze the price transmission between Serbian pig producers and processors (slaughterhouses) during the recent global commodity price peak in 2010-2011. For the vertical price transmission analysis we choose highly flexible Markov-switching vector error-correction model which allows us to identify the nonlinear price adjustments. Our preliminary results indicate that the price changes in the live pig prices are completely transmitted to the carcasses prices. Furthermore, we found that the processors are increasing their margin disproportionately, especially during the episodes of the extremely high live pig prices, wrongfully justified by the increase in input costs.

Key words: *pork market, vertical price transmission, Serbia.*

¹ Preliminary results - not for citation.

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MAINTENANCE OF THE TREASURY'S ACCOUNTING CONSOLIDATED ACCOUNT SOLVENCY

Ivan Milojević¹, Saša Trandafilović²

Abstract

Establishment of a rational management of assets made available to the users of public resources represents the basic task of the financial function of every accounting information system. Spending units realize their financial-accounting function through an unique consolidated treasury account, by which the starting point for setting up a financial discipline is made. In this respect the need for maintaining permanent solvency of the account appears, in order to timely execute the liabilities created on the account of the spending units. In this paper we will deal with a model of tracking and establishing an adequate system for maintaining the solvency of the spending units, as well as the methodology for grading investment projects in the public sector.

Key words: *accounting, investments, solvency, consolidation, account, public sector.*

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ECONOMIC INSTRUMENTS FOR ENVIRONMENTAL POLICY IN SERBIA

Jelena Matijašević¹, Anastazija Tanja Đelić²

Abstract

Economic instruments are one of the groups of instruments in the field of environmental protection, whose goal is achieving specific environmental improvements. The main purpose of the application of economic instruments is to ensure adequate environmental-pricing of natural resources, in order to ensure their effective use and proper allocation. This study presents the characteristics of economic instruments, the key criteria of their classification, the situation in developed market economies, as well as all other relevant information on this subject. Special attention was paid to the situation in Serbia in terms of legislation, investment environment, using different sources of finance and economic instruments.

Keywords: *Economic instruments, Economy, Ecology, Environment Protection Policy, Republic of Serbia.*

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FORECAST OF FUTURE INVESTMENT TRENDS IN AGRICULTURE WITHIN THE DANUBE REGION IN REPUBLIC OF SERBIA¹

Jonel Subić², Lana Nastić³

Abstract

Since investments represent a basic material factor of socio-economic development, their volume, structure and efficiency largely affect on how will be and until what level will be solved basic issues of sustainable development of agriculture, as within the Danube region, as well as in whole Republic of Serbia. Having in mind the perspectives that come for Serbia from the process of European Union (EU) enlargement, as well as that in sustainable development of agricultural husbandries investments will play a key role, borders of this study are framed by forecast of future investment trends in agriculture within the Danube region in Serbia. For forecasting of future investment trends in agriculture of Danube region in Republic of Serbia was used scenario analysis based on two methodological approaches. First methodological approach tries to answer the question: What could happen? Second methodological approach aims to answer the question: What would have to happen if we want to achieve certain strategic objectives?

Key words: *investments, fixed assets, agriculture, Danube region, Republic of Serbia.*

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ELASTICITY OF AGRICULTURAL LABOUR MARKET – THE CASE OF ZRENJANIN DISTRICT¹

Jovan Zubović², Veronika Boškov³

Abstract

Agriculture in Serbia is the economic branch which has best coped with the long-term recession as of 2008. However, number of persons being employed in it was stagnating, or even diminishing. In this paper the authors have set a goal to find out if it is possible to determine how, and in what extent the elasticity in labour market in district of Zrenjanin has had an impact on shifts in its labour market. By the means of using all available statistical data, and its interpretation they are giving the overview of the resources for agriculture in Zrenjanin. Moreover by using the regression we have shown how the equilibrium in labour market was shifting in all quartiles in the period 2010-2012. We have found that agricultural labour market in Zrenjanin is inelastic in short term, but in the long run it is getting elastic, as well as that demand side is more elastic and flexible to changes in the environment.

Key words: *agricultural sector, employment elasticity, labour market*

¹ This paper is a part of the research on the projects supported by the Ministry of Education, Science and Technology of Republic of Serbia (ID number 179001, 179015)

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LABOUR FORCE AND MODERNIZATION OF LABOUR ON FAMILY FARM

Jovana Čikić¹

Abstract

Contemporary societies are difficult to understand without taking into account strong influence of knowledge, innovations and information on labour organization and practice, characteristics of labour force, etc. Therefore, scientification of labour has not bypassed agriculture. Nevertheless, the key issue is how this process (as an element of professionalization) occurs on family farms, which are dominant form of labour organization in agricultural production. The author analyses the influence of education (as a socio-cultural characteristic of labour force on family farms) on characteristics of farms' social vitality and readiness of householders to invest in factors of labour modernization. Deficiencies in formal education can be overcome by the diffusion of knowledge and innovation in agriculture, which enables creation of the advantages of family farms.

Key words: *education, labour force, diffusion of knowledge and innovations, family farm, modernization of labour*

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LONG-TERM STRATEGIC PLANNING IN AGRICULTURAL COMPANIES

Marija Desivojević Cvetković¹, Nevena Vračar²

Abstract

A strategic plan is one of the most important documents for a business because it represents the results produced by systematic planning as well as setting a clear path for the future growth and development of a company. This paper focuses on strategic planning in today's world of business, with an emphasis on application in today's agricultural companies which are searching for this type of approach more and more in the way they do business due to their structural complexity. A case study was used where an agricultural company, as a result of research, carried out a five-year strategic plan by using a series of questionnaires and later translating the strategic options into financial implications for the purpose of defining priorities in business. A strategic plan provides a basis for an action plan therefore they are the main drivers of set investments, services and financial management.

Key words: *strategic planning, agricultural companies, financial implications.*

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CONSUMERS' PREFERENCES AND CHARACTERISTICS OF CONSUMPTION OF FRUIT AND FRUIT PRODUCTS IN SERBIA

Marija M. Nikolić, Jasmina Arsenijević¹

Abstract

The results of research of consumers' habits and preferences in the consumption of fruit in Serbia are presented in the paper. The survey was conducted during June and July 2013 on the sample of 272 respondents. The results show that the highest percentage of respondents (36%) consume up to 200g of fruit per day, while with the increase in daily fruit consumption reduces the percentage of respondents. Consumers usually buy bananas, apples and oranges, while pears are on the last place. Fruits are most frequently eaten in summer and purchased predominantly in urban green markets (48%). Quality is the crucial factor that influences the purchase of fruits, followed by a positive effect on health. The results indicate that there is a need to increase consumption of fruits, mainly of domestic production. Therefore, it is necessary to conduct significant marketing efforts to increase the consumption of fresh fruit in Serbia.

Key words: *consumption of fruit, research, factors, marketing, Serbia.*

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POTENTIALS OF THE AGRARIAN-EXPORT COMPETITIVENESS OF SERBIA IN THE NEW EU-DANUBE BASIN

Milan R. Milanović¹, Simo Stevanović²

Abstract

The agrarian-export potentials of Serbia should be perceived in the context of those markets where the transport (differential-rent) component can be a significant factor of export competitiveness. The “new EU-Danube Basin” syntagm signifies the intention to identify the agrarian market space where the waterway of the Danube is the connecting “main artery”. It is the territory of the neighboring Danube basin new EU member countries (Hungary, Romania, Bulgaria, Croatia, and Serbia, as an associate member), as a sub-region with very similar agroecological resources, and at the same time the similar structure of agricultural production and possible agrarian export. The initial hypothesis is that Serbia has certain advantages and accordingly there is a change in the position and growth of the relative significance of the EU-Danube Basin market in its total agrarian exchange. Methodologically, the hypothesis is tested by means of several comparative indicators: the coverage of import by export, the coefficient of the relative advantage of agrarian export, changes in the dynamics and structure of bilateral exchange, as well as import as an expression of the efficiency of the utilization of agrarian resources. The basic sources of the data are national statistics and the UN and the FAO statistical bases.

Key words: *agrarian export, comparative advantages, coefficients, resources.*

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LABOR PRODUCTIVITY IN CATTLE BREEDING IN THE REPUBLIC OF MACEDONIA AND THE REPUBLIC OF SERBIA

Mile Pesevski¹, Zoran Milovancevic²

Abstract

Based on two-year research of five family farms in the Republic of Macedonia (RM) and four family farms in the Republic of Serbia (RS), the authors made an analysis of the efficiency of labor consumption in cattle farms. Cattle breeding in RM is carried out in a combined stable-pasture system, while in RS reversely in pasture-stable system. The efficiency of labor input is based on natural and economic indicators. In RM, in one hour of human labor, on average 32.36 l of milk is produced, while in RS 30.02 l, or 7.3% less, respectively. The gross margin in RM is 3.1 EUR/h on average, and in RS 2.3 EUR/h, or 25.8% lower.

Key words: *human labor, efficiency, cattle, labor productivity (l/h), gross margin (EUR/h)*

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INNOVATIONS, ORGANIZATIONAL CHANGES AND HUMAN CAPITAL IN FOOD INDUSTRY

Nebojša Zakić, Svetlana Vukotić¹

Abstract

Food industry is an important industrial branch in Serbia. After big upheavals in previous period and transition times, this branch is facing new challenges due to European integrations process in Serbia as well as other important changes in the area. Innovations are becoming one of the priorities in food industry in the future in order to respond to the challenges, reach the strategic documents aims and achieve growth. EU food industry experiences and knowledge on innovations are very important guidelines for the national food industry here. Food industry innovations are very specific compared to high-tech industries which are more attention intended by the researchers. Apart from food industry innovations, this paper takes into consideration the organizational changes strongly connected to innovations, as well as the human capital issue since the innovation success crucially depends upon it.

Key words: *food industry, innovation, organizational changes, human capital, Serbia, European Union*

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PRESENT VALUE AND LIQUIDITY OF INVESTMENTS IN AGRICULTURAL LAND¹

Nikola Njegovan², Saša Todorović³

Abstract

The basic assumption used at the beginning of the research is that capital is invested in the purchase of agricultural land primarily for the purpose of conducting agricultural activities. This paper is aimed at determining what the highest price is when purchasing agricultural land. In this regard, the assessment of the investments in the acquisition of agricultural land in this research is carried out by using the method of the present value. In addition, the financial assessment of the investments in the acquisition of agricultural land is carried out. Regarding all considered models, those with the present value higher than necessary investments in its acquisition are economically justified. Of all models, the one with the highest present value is actually the most acceptable. The agricultural land can be paid best on the assumption that the prices of land will rise and that the investment is financed only from its own funds. Regarding the three considered ways of financing, the acquisition of land is financially acceptable only when it is financed from its own funds. The farms which purchase land in an established way will be more competitive.

Key words: *investments, present value, financing, agricultural land.*

¹ The paper is a result of the research conducted within the projects of the Ministry of Education and Science of the Republic of Serbia No. 46006, entitled: `Sustainable agriculture and rural development in the function of accomplishment of strategic goals of the Republic of Serbia within the Danube region` and No. 179028, entitled: `Rural labour market and rural economy of Serbia - diversification of income and reduction of rural poverty`, period 2011-2014.

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EDUCATION AND TRAINING EMPLOYEES AND LOCAL RESIDENTS AS PRESUMPTION TO DEVELOP RURAL TOURISM¹

Predrag Vuković, Nataša Kljajić²

Abstract

There are two directions for the development staff needed for the rural tourism, formal and informal. In Serbia, the dominant type has been formal, so far. However, certain programmes which gave appropriate results on the field, belonging to the informal type have recently started. The thing which encourages the most is the positive attitude of the local residents towards the knowledge in the field of tourism which they should acquire and which could improve not only their incomes, but also the conditions they work and live in (rural infrastructure, superstructure, environment, etc.). Official bodies take place in this process and it is important to build adequate system of teaching people how to achieve better results and develop their local communities through rural tourism. The aim of the paper is to point out theoretical basis of formal and informal type of the development staff for the needs to develop rural tourism, with the stress on the programmes proposed for the education and training local residents.

Key words: *education, training, development, programmes, rural areas, tourism*

¹*The paper is a part of the research on the project III-46006 “ Sustainable agriculture and rural development in the function of achieving strategic aims of the Republic of Serbia within the Danubian region”, financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.*

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FARM ANIMALS SELECTION AIMED TO IMPROVE LIVESTOCK PRODUCTION COMPETITIVENESS

Radica Djedović¹, Dragan Radojković²

Abstract

A comprehensive selection work conducted sistematically in the populations of farm animals over the last decades resulted in a remarkable genetic progress and positive phenotypic trend for the traits of interest. In cattle breeding, by introducing new methods, a genetic improvement in the milk yield traits of even up to 2-3% annually has been achieved. In recent decades the back fat thickness in modern pig breeds has been decreased by 75%, growth rate increased by 100%, however, a very slow progress has been achieved in the swine fertility. In the future the genetic progress in livestock production will be based on the achievements made in molecular biology, bioinformatics and computational biology. This will lead to a wide application of genomic selection whose usage could improve the accuracy of animal additive genetic value through reducing generation interval and thus result in the increase of selection effects.

Key words: *selection, cattle, pigs, competitiveness.*

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SUFFERING OF WILD ANIMALS IN HUNTING-GROUNDS FROM APPLICATION OF AGRICULTURAL MECHANIZATION AND PESTICIDES

Rajko Tepavac¹, Tomislav Brzaković²

Abstract

Suffering of wild animals in hunting-grounds, due to a man's irresponsibility, is a subject which answers to a complex issue of one economic branch (hunting) development. Inasmuch Serbia achieves hardly a developmental level, which have the surrounding countries, with similar climate, relief and type of game. Sequence of events can be stopped by using experts in this field. By accepting the insurance, the insurance company requires an accurate treatment towards the insured case, but also its separated measure and tracking of other kinds of damage. For such developmental project are necessary significant assets, as primary investments in quality hunting base and sure result of material protection from the insured harmful event. The insurance, if we take that risk, will determine the size and pay only for that damage. Then we will have to see a result of the management and undertaken measures and according to other factors. This is one of the approaches how to reimburse the assets and how to gain, if the game fund is not biologically protected from men's collateral negligence and unsynchronized actions in nature.

Key words: *game, insurance, damage, compensation, management, poaching.*

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POPULATION VERSUS FOOD IN THE CONTEXT OF FOOD SECURITY WORLDWIDE

Raluca Andreea Ion¹, Dan Cristian Popescu²

Abstract

This paper tries to investigate the problem of food security and disparities among world's nations in those regarding food availabilities. It answers the questions: what is the currently state of food security in the world and how high are the gaps between food availabilities in different regions of the world? The research indicates that qualitative and quantitative differences that manifest in the world in terms of food consumption shows that where food is scarce and insufficient, it has no corresponding qualitative structure. The fact that food production increased, shows that hunger is due not only to the growing demographic factor, but also to the limited access to technique and technology of the poor nations.

Keywords: *food security, food availability, famine, malnutrition, under nourishment*

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THE CONCEPT OF ECONOMIC EFFICIENCY IN AGRICULTURE

Rodica Chetroui¹, Ion Călin²

Abstract

The economic efficiency is a concept with a complex content, which expresses the useful effect achieved in an economic activity, in relation to the requested expenditures, or the effort for its realization. Through its applicative side, the efficiency (e) can be defined as a quantitative ratio between the effects (E) and the resources or efforts (R) made to obtain them, or, in other words, achieving maximum effect with a specified level of consumptions, or reaching the determined effect with minimum consumption: $e = E / R \max$ (maximizing the effects obtained per unit of allocated, consumed resources); $e = R / E \min$ (minimizing the resource consumption per unit of effect achieved). This concept is the most important qualitative indicator of the economic development, a key factor in accelerating economic growth. Applied in agriculture, it represents the obtaining the maximum amount of production per hectare or per animal, with minimal expenditure of manpower and materials. Determination of economic efficiency must be based on knowledge of the elements that characterize the production effort and having three main sources: the optimal use of resources, rational use of labour and production management.

Keywords: *economic efficiency, effects, resources, agriculture, concept*

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PERFORMANCE INDICATORS OF WATER AND SEWAGE COMPANIES IN SERBIA IN THE PROCESS OF ACHIEVEMENTS' COMPARISON (BENCHMARKING)

Sanda Nastić¹, Boban Birmančević²

Abstract

In order to assess their market position companies always have a need to compare with other companies. One of the contemporary methods of comparing with the companies is benchmarking. During the 2012 the Pilot project - Benchmarking of 15 water and sewerage utility companies in Serbia was implemented. The project was financed by the World Bank and implemented through non-governmental sector (IPM) and participating utilities, according to the methodology of International Benchmarking Network for Water and Sanitation Utilities (IBNET). The focus of the work was data reliability, following the principle of self-evaluation - external control. The project goal emphasize was put on company data reliability, while the comparison of indicators was put in the background. This paper presents the results, experience in 'knowledge sharing' and highlights the importance of benchmarking in the management and decision-making in municipal water and sewerage companies in Serbia. Benchmarking project of waterworks and sewerage companies in Serbia showed that through mutual cooperation these companies, in cooperation with non-governmental organizations (NGO), may self-organize and realize projects related to collection, analyzes and evaluation of data. The success of the Pilot project has enabled the expansion of activities in 2013, with more interested utilities and the inclusion of the government sector and additional work on accreditation principle.

Key words: *benchmarking, data reliability, indicators, water and sewerage.*

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STATISTICAL MODELING AS A WAY OF RESEARCHING ECONOMIC LAWS

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Abstract

In this paper, we will point out the possibilities of researching economic phenomena using statistical modeling. Stochastic model (stimulation model, Monte-Carlo model in imitational aspect) enables research of complex systems of every type, so it can be used in researching economic laws. The possibility of including non-linearity, dynamics, stochastic nature of some occurrences, makes it possible for the stochastic model to be made adequate to reality. The essence of statistical modeling is for the process of a complex system functioning to be mimicked by arithmetic and logical operations, in such successiveness of natural processes, which is characteristic for the process that we are modeling. Imitation of aleatory factors is done by using aleatory numbers.

Key words: *Modeling, economic laws, random variables.*

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SPECIFICITY OF RANGE OF PRODUCTS IN TERMS OF INTERNATIONALIZATION OF TRADE

*Sreten Ćuzović**, *Svetlana Sokolov Mladenović***

Abstract

The internationalization of trade indicates the possible direction of growth and development strategy trading companies in international and global scale. This business can be done ad hoc, but is a careful design and targeting activities. In other words, it is necessary to carefully establish possible internationalization strategy based on clear and proven marketing guidelines. Thus comes to the fore marketing dimension of internationalization of trade, which is based on the expression of specific marketing mix. As the range of products the main instrument of the marketing mix, the case studies in this paper are characteristic of this instrument in terms of the internationalization of trade. The premise is that a range of products starting point for business in foreign markets, where they exhibit their specificity. Testing this hypothesis will be carried out through the analysis of strategic alternatives in the design of the product range, product quality management and the trade mark.

Key words: *range of products, internationalization, trade, quality, trade mark.*

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AGRARIAN POLICY OF SERBIA – IMPLICATIONS FOR AGRICULTURE AND AGRO-INDUSTRIAL SECTOR*

*Stanislav Zekić, Miloš Tošin***

Abstract

Development strategy after World War II implies the discrimination of individual holdings and encourages large state/publicly owned estates in agriculture. The result is the creation of the dual production structure and uneven development of agriculture as a whole. The period, marked by the transition processes in all the former socialist countries of Central and Eastern Europe, is characterized by the UN sanctions and the imposed model of a closed economy in Serbia, which further contribute to the modest reform process. In the period after the year 2000, the country has been opening to the world and creating conditions for the start of the reform process. However, this period is marked by the absence of a clear strategy for the development of agriculture, with great instability of agrarian policy as a result. Such a policy has significantly affected the production and performance of agriculture and the state of the agro-industrial sector.

Key words: *Agrarian policy, Agriculture, Productivity, Agro-industry, Serbia.*

* This paper represents a part of the research on the project of the Ministry of Education, Science, and Technological development, Republic of Serbia, No. 46006, entitled: *Sustainable Agriculture and Rural Development in terms of the Republic of Serbia strategic goals implementation within Danube region.*

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OPERATIONAL MANAGEMENT OF IRRIGATION WITH THE AIM OF AGRICULTURAL HOLDING DEVELOPMENT

Svetlana Potkonjak, Ksenija Mačkić¹

Abstract

We presented a model of irrigation systems management, which was developed and partially tested on an actual system. The research has shown that irrigation management on a agricultural holding cannot be observed regardless of other agro-technical operations. That is why such methods ought to be developed inseparably from the overall management of agricultural production on a agricultural holding. In order to improve the management of irrigation systems, more advanced methods and technologies should be used (GA,GIS). On a agricultural holding in Vojvodina the testing of a suggested management model was initiated. Firstly, the optimization of production structure was performed, indicating that much better economic and production results of irrigation operations can be achieved. For the same system, a data base was created, based on which the costs of irrigation by crops were calculated. In the following season, system management will be aimed at the reduction of irrigation costs.

Key words: *irrigation, agricultural holding, management model*

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² The work was undertaken as a part of the project no. 46006: “SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT IN THE FUNCTION OF ACCOMPLISHING STRATEGIC OBJECTIVES OF THE REPUBLIC OF SERBIA IN THE DANUBE REGION“. It has been funded partially by the Ministry of Science, Technology and Development, Government of Serbia.

DROUGHT RISK REDUCING IN CORN PRODUCTION USING WEATHER FORWARD*

Todor Marković¹, Sanjin Ivanović²

Abstract

Relatively new tools for risk management in plant production are weather forwards. By using weather forwards mostly the crops with significant participation in the sowing structure are being insured. Mercantile corn is the most important field crop in Serbia, and on family farms in Vojvodina participation of corn in sowing structure is approximately 50%. Climatic conditions have very big influence on corn production and insurance is one of possibilities for minimization of drought risk. However, such type of corn insurance is very rarely used in the world, while in Serbia it is recently introduced. In this paper we quantify the drought risk reducing effect with or without weather forwards. The results show that the hedging efficiency with weather forward is substantial (34,87%), but basis and geographical risk significantly reduces the protection effect. If the field of production is close to the meteorological station, the effect of risk reduction is significant.

Key words: *corn, drought, geographical basis risk, production related basis risk, risk management, weather forwards*

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* The paper is a result of the research conducted within the project III-46006 of the Ministry of Education, Science and Technological Development of the Republic of Serbia entitled “Sustainable agriculture and rural development in order to achieve strategic goals Republic of Serbia in the Danube region”.

THE CHAOTIC WHEAT PRODUCER PRICE GROWTH MODEL: THE DANUBE COUNTRIES

Vesna D. Jablanović¹

Abstract

The important role of the Danube countries in the production and export of wheat is sufficient reason for attentive analysis of producer price of wheat in this region. The basic aim of this paper is to construct a relatively simple chaotic producer price of wheat growth model that is capable of generating stable equilibria, cycles, or chaos, and secondly, to analyze the stability of wheat producer price growth in the Danube countries in the period 1991-2010. A key hypothesis of this work is based on the idea that the coefficient $\pi = [1 + \alpha (\beta - \mu)]$ plays a crucial role in explaining local growth stability of the producer price of wheat growth, where, α - the adjustment coefficient; β - the coefficient of wheat demand function; μ - the coefficient of wheat supply function. This paper confirms that during the period 1991-2010, wheat producer prices increased because the coefficient $\pi > 1$ in the Danube countries.

Keywords: *producer price of wheat, growth, chaos*

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POSSIBILITY OF INTEGRATED RURAL MUNICIPALITY OF REKOVAC

Vladimir M. Nikolić¹, Marko Ivaniš²

Abstract

Specify the objectives and policies of the rural development of underdeveloped municipalities should take into account the conditions of the economic environment. Contemporary moment (not only of the Serbian economy) reflecting the decline in economic activity and the high cost of hiring funds. Policy to attract investors implies continuity in improving the conditions and benefits of investment. It is understood that the solutions can be found in the growth of primary agricultural production, i.e., exploitation of forests and forest products. Simultaneously, it reaffirms the need to access rural industrialization (building mini - industrial plants).

Keywords: *Rural development, PEST analysis, rural industrialization*

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ECONOMICS CHARACTERISTICS OF PRODUCTION OF LIGHTWEIGHT AGGREGATES FROM WASTE MATERIALS

Vladislav Zekić, Zoran Bačkalić¹

Abstract

The best way to deal with disposal of fly ash is to use it as a raw material. As a primary solution, it is necessary to analyze their use in the construction materials industry. Application in construction industry is particularly significant in terms of environmental protection and opportunities for improvement of certain properties of cement mortar and concrete. The calculated cost of production of small aggregates was 70.52 €/m³. The biggest costs are the costs of energy with amount of 85% of total production costs. In the case when costs of production, without calculating the price of the raw materials, are compared to the price of an equivalent material, or of gravel, estimation of economic effectiveness gives a negative result. This result is primarily caused by the high cost of energy in the production process.

Keywords: *lightweight aggregates, waste materials, recycling.*

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PRODUCTION AND CERTIFICATION OF FRESH ORGANIC VEGETABLES - PROSPECTS OF COMPETITIVENESS

Vlado Cvijić, Mirela Zrnić¹

Abstract

Organic food production, especially organic vegetables is a very promising long-term sustainable agricultural production. In the Republic of Srpska/BiH is currently developing several major projects primary production downtime organic vegetables, which is properly certified and that seems entirely export - oriented production. There are significant projects implemented with concrete , successful and measurable results, which represent a model of good practice for the long-term development of the sector of organic food production and increasing the share of primary organic farmers. Republic of Srpska/BiH has great potential and opportunities for a successful development of organic food production, so that the direct affirmation of the sector, through the introduction of new technology to ensure long-term sustainable development and the establishment of good practices of producers in the agri-food sector to achieve the appropriate level of competitiveness at the regional level.

Key words: *organic production, certification, development, competitiveness, export.*

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CONTRIBUTION OF AGRICULTURE TO ACHIVEMENT OF THE MDGs – THE CASE OF BOSNIA AND HERZEGOVINA

Željko Vaško,¹ Aleksandra Figurek²

Abstract

The development goals are different from country to country and from one period of time to another. To facilitate tracking and comparing the achievement of development goals, in 2000 the world list of eight unique millennium development goals was established. Agriculture primarily contributes directly to achieving the development goals of poverty and hunger alleviation by employing labour and produce food. In Bosnia and Herzegovina (BaH), the contribution of agriculture is powerful because, in a situation of high unemployment, a significant part of the workforce is employed in agriculture, and rural households produce most of the food needed for consumption of its members and excess food, which is consumed by urban population. The potential in food production in BiH is not adequately utilized and in this respect, the contribution of agriculture food production could be higher. Extensive agricultural production is correlated with the development goal of providing environmental sustainability and in case of intensifying agricultural production often do not pay enough attention to ecological principles. In terms of achieving the other MDGs (Millennium Development Goals), rural areas in BaH generally lag behind urban areas.

Key words: *development, agriculture, millennium development goals.*

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REINDUSTRIALIZATION OF SERBIAN AGRICULTURE: TOWARD A MORE BALANCED AND KNOWLEDGE BASED RURAL DEVELOPMENT¹

Zoran Njegovan², Marko Jeločnik³

Abstract

The paper deals with the role and importance of reindustrialization of Serbian agriculture due to the importance of technology and knowledge development. Those are the factors of agricultural production prosperity, especially in the rural areas where they offer possibilities for more balanced development in accordance with local natural features and regionalization of agricultural production. Following the latest international experiences, in the area of regional development and planning, in market oriented economies, the authors point out the need for reindustrialization of obsolete agriculture and implementation of new industrial policies within the Republic of Serbia. According to the authors, the special efforts have to be focused toward the development of knowledge based agriculture. The above mentioned is directing to new concepts and reorientation of Serbian agriculture based on new approaches that are standing on the new foundations. Reindustrialization, supported by the relevant policies, should enables possibilities for Serbian agriculture to achieve better results, as well as to be better structured at the new bases.

Key words: *reindustrialization, industrial policies, technological development, knowledge based agriculture, balanced development.*

¹ Paper is a part of project research III 46006 - *Sustainable agriculture and rural development in function of Republic of Serbia strategic goals achievement within the Danube region*, financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia - project period 2011-2014.

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FARM.SOFT S.20.10-AGROMIX - SOFTWARE FOR RECORDING AGRICULTURAL FARM BUSINESS OPERATIONS: AN EXAMPLE OF GOOD PRACTICE IN SERBIA

Zorica Sredojević, Dragana Mojsijev¹

Abstract

Application software FarmSoft S.20.10-Agromix is a software solution for keeping records of farm business operations. The program was created by a team of experts from the consulting firm Mojsijev from Vrsac. It has been installed at over 300 farms in Serbia and 30 farms in Montenegro. For the purpose of simplicity and easier use by our farmers, the program menu is made in Serbian. The methodology of the program is aligned with the FADN methodology of keeping accounting records in the EU countries. Use of the software includes: data entry, data updating and report reviews. The program enables the monitoring of: farm assets - land, buildings and machinery; income and expenditure, with records of suppliers and customers; inventories of materials and finished products, crop production records on work operations and spent material per plot and products; central register of livestock, monitoring of livestock production with the records of all the events and costs for individual animals; calculations for each farm product; as well as writing reports for each of these records. Empirical data from our practice and the results of the survey carried with the owners of farms who use the FarmSoft S.20.10 show that by its proper use business can be managed successfully and the farm's competitiveness is encouraged.

Key words: *farm, business, records, software, competitiveness.*

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KNOWLEDGE AS A SOURCE OF COMPETITIVE ADVANTAGE OF THE AGRICULTURAL ENTERPRISES¹

Zorica Vasiljević², Bojan Savić³

Abstract

In contemporary and dynamic business conditions the knowledge is a critical resource for successful business in the long run. Hence, there is a need for companies to create and execute the knowledge transfer in order to build, maintain and strengthen the competitive advantages. The aim of this paper is to explore the role of knowledge in modern economy and to point out the need to adopt the concept of "learning organization" by domicile agricultural enterprises. Implementation of the Stabilization and Association Agreement has predicted liberalization of trade between Republic of Serbia and European Union. That means facing of domestic enterprises (including the agricultural ones) with relentless competition of economically developed countries. The domicile producers will have the opportunity to successfully meet the challenges only if they have adequate knowledge. They need knowledge in order to successfully protect themselves from foreign competitors, but also to find a way toward foreign consumers.

Key words: *knowledge management, competitive advantage, innovation, learning organization, agriculture, globalization.*

¹ The paper is a result of the researching project No. III-46006 «Sustainable agriculture and rural development in the function of implementing the strategic goals of the Republic of Serbia within Danube region» and project No. III 46001 «Development and application of new technologies in production of competitive food value-added products for domestic and foreign markets – Let's make wealth from the wealth of Serbia» financed by The Ministry of Education and Science of the Republic of Serbia.

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II SECTION

BIOREGIONALISM AND PERMACULTURE AS A CONCEPTS OF CONSERVATION OF ECOLOGICAL SPECIFICITIES OF RURAL AREAS

SUSTAINABLE DEVELOPMENT OF RURAL AREAS: CHALLENGES FOR THE REPUBLIC OF MOLDOVA

Alexandru Stratan¹, Victor Moroz²

Abstract

The aim of the paper is to identify the main challenges of the sustainable development of rural areas. In order to achieve this, there were used the following research methods such as: analysis of the economic indicators, methods of comparative analysis, analysis of the public policies' impact on the agro-food sector and rural area. The agri-food sector in the Republic of Moldova is based on extensive farming and is insufficiently adapted to market economy conditions. There is a growing understanding in the country that the rural economy is not confined to the agricultural sector, but embraces the broad spectrum of needs of all rural people including living standards, economic activities and natural resources. The paper contains conclusions and proposals on diversification of agriculture and non-farm activities in rural areas.

Key words: *Agricultural sector, sustainable development, rural areas, diversification*

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AGRITOURISM IN THE FUNCTION OF SUSTAINABLE DEVELOPMENT OF THE MUNICIPALITY OF ŽAGUBICA

Branislav Živković¹, Dragana Stojanović²

Abstract

The consequences of decades of inadequate agricultural policies are reflected in the migrations from villages to cities, but also from villages to Western Europe countries in search of jobs that bring more money and self-assertion compared to agriculture in Serbia. This trend has especially gained momentum after the failure of cooperatives in Serbia during the nineties. All of the above has led to major degradation of the already degraded rural areas. Under the pressure of these negative tendencies, for the sake of survival and preservation of bare existence, rural regions are forced to seek alternative sources and means of obtaining financial resources. As the result, the development of tourism has come into focus as a logical choice, especially as the trends coincide with trends of changing demands, which favored orientation of rural communities towards tourism development. This paper presents the municipality of Žagubica and points to the real potential, possibilities and the importance of developing agritourism and its role in sustainable development of tourism the municipality in Žagubica.

Key words: *agritourism, tourist region, Žagubica*

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ECOLOGICAL AND ENVIRONMENTAL RESPONSIBILITY OF MINING PROJECT FROM ROSIA MONTANA

Cristian George Popescu¹, Mihaela Sandu²

Abstract

This article aims to highlight the environmental and economic responsibilities of the Romanian state mining project from Rosia Montana, starting from existing data, reports and press releases, mostly belonging to the investing firm. What is to note, that the Romanian state faced on one side with an acute need for monetary funds, mainly due to the recession, but on the other hand with obvious uncertainty on some unclear information or information not presented in the materials provided by the investor. However, it is certain that there is a minimum guaranteed return of the conducted research, as long as the pressures on the part of the population against the project, but mostly because of time pressure (after signing operation have already been 15 years), the company investor has not given up on the project. If will be a good business for Romanian state, it must be measured not only in terms of income calculated by the investor, but also in terms of long-term spending for over 50 years.

Key words: *environment, mining, gold corporation, social responsibilities, business ethic*

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ANALYSIS REGARDING THE ROMANIAN AGRICULTURE CONTRIBUTION TO THE TOTAL GREEN HOUSE GAS EMISSIONS

Cristian Teodor, Irina Elena Petrescu¹

Abstract

This paper represents a detailed analysis of the influences of the agro-food sector of Romania within the total amount of greenhouse gas emissions in the period 1990-2009. In addition, the effects of diminishing the forestry real estate in Romania have been analyzed and pointed out. A dynamic system has been proposed, a dynamic modeling program Stella, having as a purpose the correlation of the gas emissions from atmosphere to the degree of their absorption and to the way in which the forestry real estate influences the evolution of these ones. At the end, the greenhouse gas emissions forecast was made until the end of 2015.

Key words: *agriculture, greenhouse gas, forestry real estate*

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DEVELOPMENT OF THE ANIMAL HUSBANDRY AS CONCEPT OF PRESERVATION OF THE SJENICA MUNICIPALITY RURAL AREA

Cvijan Mekić¹, Zorica Novaković²

Abstract

In this paper the potential of Sjenica municipality and ecological conditions for development of different areas of animal husbandry production from conventional to organic. Sjenica municipality covers the area of 1059 km². From the total municipality area agricultural land is 80.297 ha, arable land covers 7.917 ha, orchards 30 ha, meadows 25.703 ha and pastures 45.581 ha. Even though there are good conditions for development of animal husbandry production, at the moment the number of cattle and sheep present at the area is significantly below the real possibilities of the area. Natural potential and climate are very favorable for animal husbandry production. The program for improvement of the cattle and sheep production was suggested. Rural areas with terrain such is at Sjenica municipality represent significant (still unused) resources for not just food production but development of sustainable agricultural production especially organic production with the goal of facilitating the sustainable social economical rural development, protection of natural resources from pollution, increasing of the land fertility and maintenance of the biodiversity.

Key words: *Sjenica municipality, agricultural resources, animal husbandry development, sustainable agriculture, organic production.*

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SOME ASPECTS RELATED TO THE POTENTIAL OF RENEWABLE ENERGY SOURCES IN ROMANIA

Dorel Dusmanescu¹, Jean Andrei²

Abstract

Energetic resources represent a key factor in the consolidation of every high competitive market economy, through the major role that they have in assuring the functionality of the economic system components. Romania has a good technical potential concerning the renewable sources of energy, but that potential are unefficiently evaluate in the present. The paper main aim is to present some results regarding the renewable energy potential of Romania.

Key words: *Wind energy, photovoltaic energy, thermal solar energy, biomass, biodiesel, bioethanol*

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MILK PRODUCTION AND NITROGEN EFFICIENCY IN DAIRY COWS

Gjoko Bunevski¹, Blagica Sekovska²

Abstract

Nitrogen (N) efficiency is one of the key drivers of environmentally and economically sustainable agricultural production systems. Also, nitrogen is an essential part of many different aspects of operating a sustainable dairy farm. Totally 45 dairy farms were under the control of milk content of proteins and fats. In the breeding organizations, the average milk production per cow is about 6300 kg milk per cow per lactation, in the family farms around 5100 kg, with 3,7-4,1% of fats and 3,3 to 3,6% of milk proteins. Also, survey was done for their willingness to explore nitrogen by urea milk analyzing. According to the statistics, after the previous explanation of the meaning of urea measuring in milk, only 42% of farmers wish to explore urea in milk and to pay for that, from which young and big farmers are the dominant farmers with positive altitude. According to the way of payment for analyses, only 26,7% were agreed to paid from themselves, 33,1% want to pay partially, and all the rest (40,2%) agreed analyses to be paid by some project or another budget, but not from their farm budget. Bulk tank milk sampling can be useful tool for periodically estimation of urea concentration, together for milk fat and protein content to balance properly the energy and protein ration, as well as for controlling the nitrogen environmental pollution from dairy farms.

Key words: *nitrogen efficiency, urea, milk components, dairy cows*

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ECOLOGICAL SPECIFICITIES AND PERMACULTURE IN FUNCTION OF ORGANIC AGRICULTURE

Gorica Cvijanović, Gordana Dozet¹

We can never know the answers
To the great spiritual questions.
We were born and we live on the Earth in order to
Face with the reality of life.
Masanobu Fukuoka

Abstract

Sustainable development concept takes central place in considerations of long-term perspective of progress of human society burdened by the consequences of the dramatic environmental degradation over the past century, a strong demographic pressure and the real limitations of natural resources. For harmonious relationship with nature and creation of sustainable ways of life in the food production there was developed an innovative framework called permaculture. It is a harmonious relationship between people and the landscape through which are provided food, energy, material and non-material needs in a sustainable way. Organic agriculture is a part of permaculture system. The advantages of this mode of production are great, especially in increasing the biodiversity of plants, animals and microorganisms, soil conservation, development of farm type production. According to the position and the advantages of Serbia presence of organic farming in the country is small, only 0.4% of the total arable land. The development of organic production provides an opportunity for the development of other industries as tourism through the preservation of landscapes, gastronomy, higher employment, rural development, especially in rural areas.

Key words: *biodiversity, organic agriculture, permaculture*

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ORGANIC PRODUCTION AND PERMACULTURE AS CONCEPTS OF PRESERVING OF THE UNIQUE ENVIRONMENTAL FEATURES OF RURAL AREAS

Jelena Birovljev¹, Biljana Četković²

Abstract

Questions related to the possibility of survival of the planet arising from the relationship between man and nature are raised more with increasing frequency over the past decades and the offered answers are often different to the point of diametrical opposition. Such a setting gives rise to the increasingly significant issue of sustainable development, i.e. development through which future generations should at least inherit the resources available to their ancestors. Large-scale reintroduction of the almost forgotten farming tradition into our economy requires maximizing the utilization of our natural resources, geographic position, relief, i.e. landscape, and climate. Organic farming focuses on people's future and well-being as well as enhancing the environment, so that the advantages of investing in it are of permanent character.

Key words: *organic production, sustainable development, permaculture, agriculture.*

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POTENTIALS OF FORAGE CROPS PRODUCING IN PURPOSE OF ENCOURAGING THE SUSTAINABLE DEVELOPMENT OF UPPER DANUBE REGION¹

Marijana Jovanović², Savo Vučković³

Abstract

The goal of this paper is analysis of forage crop production in area of Upper Danube Region, which for the purpose of this research includes the territory of four municipalities: Apatin, Bač, Bačka Palanka and Sombor. We have used the data from the Republic Statistical Office for the period of 2002-2011, so that in analyzed municipalities represented the dynamics of production of most important forage crops (alfalfa and clover), as well as production of voluminous forage crops on meadows and pastures. It will be presented the significant of this type of plant production in sustainable development of mentioned bioregions.

Key words: *forage crops, meadows, pastures, sustainable development, Upper Danube region*

¹This paper is part of results on the project III 46006 "Sustainable agriculture and rural development in function of achieving the strategic goals of Republic of Serbia within Danube region", project funded by Ministry of Education, Science and Technological Development of Republic Serbia. Project period 2011-2014.

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MIGRATION MOVEMENTS IN THE AREA OF GRDELIČKA KLISURA AND THE CONCEPT OF BIOREGIONALISM

Mihailo Ratknić, Sonja Braunović¹

Abstract

The concept of bioregionalism must acquire importance in Serbia. As a transitional country that adopted the course of joining the EU, it must organize lives of its citizens in accordance with the new developmental-civilization concepts and opportunities. On the other hand, Serbia is a centralized state that records negative demographic and economic trends in the majority of local self-governments, creating little opportunities at that level for fostering local and regional development and maintaining existence. The paper outlines the possibilities for application of the concept of bioregionalism in the area of Grdelička klisura. It has been established that the demographic abandonment of the area has occurred as a result of migration movements, which, in consequence, resulted in revitalization of natural ecosystems.

Key words: *bioregionalism, population, natural resources*

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INFLUENCE HERBICIDES ON MICROORGANISMS AND THEIR MUTUAL INTERACTION

Milan Sudimac¹, Maja Sudimac²

Abstract

Ever since the first appearance of herbicide molecules to present days advanced agricultural production would be hard to imagine. Tendency for making compounds with favorable eco-toxicant properties has the role of protecting life environment. After reaching soil, herbicides as toxic substances have influence on micro flora of soil in various ways. Such effect can be perceived over numerous processes of physical, chemical and biological decomposition. In most microorganisms there easily come to reduction in population only a few days after herbicides have been applied while presence of specific microorganisms remains the same. The fact is that these compounds have great effect on the population of microorganisms which are responsible for biogenesis of soil. In this paper, we have tried to give further explanation of the way the interaction between soil and microorganisms occurs; which factors lead to changes in oxide-reduction process and what consequences may occur. As a result of disorder in such relations. We also suggest the way particular groups of herbicides affect the change in number of individual microorganisms.

Key words: *Herbicides, microorganisms, soil, degradation*

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ORGANIC AGRICULTURE AS A FACTOR OF RURAL DEVELOPMENT IN SERBIA*

Mirela Tomaš-Simin, Anka Popović-Vranješ¹

Abstract

In this paper the role of the concept of organic food production in the rural development of Republic of Serbia is discussed. The authors are discussing the limiting factors and problems of rural areas in the Republic of Serbia and possibilities of organic agriculture as a sustainable method of development. Methods used are analyses and comparison using published data of official institutions and farm survey. As a conclusion, authors discuss that organic agriculture can be one of the potential ways of development of rural areas, emphasizing the positive outcomes of such way of farming.

Key words: *Rural Development, Organic Agriculture, Sustainable Method of Rural Development, Republic of Serbia*

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IMPACT OF CLIMATE CHANGE ON ADAPTING OF ORGANISMS IN THE REPUBLIC OF SERBIA¹

Mirjana Arandelović², Vedran Tomić³

Abstract

Global warming majorly changes the environment and affects plant and animal species. Climate change is too abrupt for plants and animals to adapt easily. Plant and animal species respond to new conditions with adaptations in space and time, during which changes in phenological stages and migration take place. Over the last decade, plant and animal populations have been decreasing due to an unsynchronized response of co-dependent species to climate change. When there is a mutually-dependent relationship between species with temperature-based phenological stages and species that depend on the number of sunshine hours, a change in the temperature cycle when the cycle of sunlight remains the same can result in extinction of species. The paper shows the impact of climate change on change in phenological stages in general, and its indirect impact on yield and agriculture. The goal is to point out the need for analyzing effects of global warming in the Republic of Serbia in order to anticipate potential deviations from the expected and enable sustainable development.

Key words: *sustainable development, yield, impact on the environment, climate change*

¹The paper is a result of the Project III-46006 "Sustainable agriculture and rural development in the function of realizing the strategic goals of the Republic of Serbia within the Danube region"

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CONTRIBUTION OF INSURANCE IN DEVELOPMENT OF BIOREGIONALISM¹

Mladenka Balaban², Ivana Simeunović³

Abstract

This paper have role to show how insurance in agriculture in stimulating the development of bioregionalism, especially in food production. People have always had to overcome obstacles in order to ensure food. Although the technology has largely failed to sufficiently increase the food supply, food security, especially in emerging markets, has not significantly improved, despite the enormous efforts made by national governments and supranational organization. Insurance of food is becoming more challenging as the population of the world is growing. It is estimated that global agricultural production must increase by 60 % by 2050, to meet the growing needs of people for food. Da meet the growing food needs of the growing population, required huge investments in agriculture, it is therefore necessary point out the risks that may occur in food and thus the importance of ensuring that gives in support this branch in development on bioregionalism.

Key words: *insurance, agriculture organization, protect natural resource, increasing population*

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SUSTAINABLE DEVELOPMENT OF SERBIAN DANUBE BIOREGIONS¹

Nada Mijajlović, Bojana Bekić²

Abstract

Danube Region in the Republic of Serbia has its numerous specificities regarding biodiversity, cultural, sociological and economy characteristics. Serbian Danube region can be divided into three sub-regions called bioregions. Each bioregion has its natural and cultural resources that must be preserved and improved. Aim of this work is to present specific features of each bioregion with special emphases on protected areas. Upper Danube bioregion is characterized by Special Nature Reserve „Gornje Podunavlje“, Metropolitan bioregion is characterized by large urban areas where there is a possibility of permaculture model application and in the third bioregion, Lower Danube, the main characteristic is National park „Đerdap“. In some of these regions there is a possibility of cross border cooperation with neighbouring countries where natural goods are extending.

Key words: *bioregions, permaculture, sustainable development, Serbian Danube region, biodiversity*

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IMPORTANCE OF THE EUROPEAN FUNDS FOR AGRICULTURE AND RURAL DEVELOPMENT IN EU MEMBER STATES

Nicolae Istudor, Dan Cosmin Petrache¹

Abstract

European Union allocates funds for the socio-economic development of member states, one of the most important sector being represented by agriculture. Romanian agriculture has known an improvement since the accession of European Funds, but still has significant gaps compared with other EU countries regarding especially production. This is the reason that the next programming period (2014-2020) and funds allocation need to continue the increasing trend, fundamental by economic efficiency of the agricultural exploitations and to encourage the diversification of the rural activities as well as environment protection.

Key words: *agriculture, rural development, European Union*

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FINANCING THE PROJECTS OF FOREST REPRODUCTION: UKRAINE AND INTERNATIONAL EXPERIENCE

Oleksandr Labenko,¹ Ivan Ivolga²

Abstract

No economic, social, cultural and other achievements are worth if the natural resources are treated carelessly. Forests are extremely important natural resource. In the paper have been used qualitative methods (interviews, discussion and written documents). Natural resources are exhausted and environmental condition sometimes cannot be restored. In this context, forests act as a source of natural resources and environmental restoration element of the environment. Part of the territory of Ukraine is occupied by forests, over the past two decades, is over 16%. For their preservation and enhancement substantial financial resources are required as well. The goal of this research is the evaluation of financing of forestry in Ukraine, the study of foreign experience in raising funds for the development of the forestry sector. Ukraine's Government does not have sufficient financial resources for investment in fixed assets of forestry. In this context, the experience of Latin American countries where the forest area is the largest could be interesting.

Key words: forest resources, funding, reproduction, financial instruments.

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HUNTING TOURISM IN THE FUNCTION OF RURAL DEVELOPMENT OF GORNJE PODUNAVLJE

Risto Prentović,¹ Jadranka Delić²

Abstract

Gornje Podunavlje, a microregion in northwest Serbia, which covers the territory of the city of Sombor and municipality of Apatin, is mostly rural area. Besides the fact that it has significant natural and anthropogenic resources, this region has not achieved the corresponding economic, and above all, rural development. Tourism, including hunting tourism can represent a considerable factor in rural development of this destination within which there is, among all, a Special Nature Reserve "Gornje Podunavlje", as a protected area. The generating function of tourism, and especially hunting tourism, is possible to accomplish if and only if the full correlation, in other words integration of relevant special kinds of tourism in this area (rural, cultural, nautical, spa, eco, fishing, and, especially, hunting) along with harmonizing with other industries (agriculture, forestry, waterpower engineering) is actualized. The topic of this research is overviewing the place, the role and potential of hunting tourism for the purpose of rural development of Gornje Podunavlje.

Key words: rural development, hunting tourism, Gornje Podunavlje, Serbia

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PROSPECTS FOR SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT OF UKRAINE

Ruslana Mamchur¹

Abstract

Unfortunately, the main problems facing the world at the beginning of 2012 remained unresolved. Among them are the decrease in global economic growth and employment, high levels of government debt in some countries and the need to reorient the national economy of others from external to internal growth sources, the vulnerability of the financial system. Among the new challenges requiring greater attention from the international community, should be highlighted the complications caused by protectionism and nationalism to multilateral cooperation and economic integration, and increased competition for the most important natural resources (especially energy, food and water). In the current context of the global financial crisis, donor countries and international organizations progressively reduce the cost of solving the traditional problems of global development, such as pollution and poverty. The increase in threats in corresponding areas may eventually have extremely dangerous consequences for the entire world community. Feature of economic and social development of Ukraine today is a high degree of impact of global instability on domestic economic processes. Analysis assumptions and patterns of development risks in Ukraine that led to the recent economic crisis provides grounds for concluding that achieving real sustainability of the national anti-crisis economy is possible only on the basis of a consistent reform of key areas of economic and social life.

Key words: *socio-economic development, economic growth, global economy*

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ANALYSIS OF ORGANIC AGRICULTURE AND ITS SIGNIFICANCE IN TERMS OF THE ENVIRONMENT PROTECTION IN SERBIA¹

Slavica Arsić², Miroslav Čavlin³

Abstract

Methods of organic agriculture that are already use in many countries in the world, has shown excellent results in the conservation of soil biodiversity, soil and water purification from pesticides and fertilizers. Biological control of pests, the use of natural substances in disease control, fertilizer use, such as manure and compost to increase soil fertility measures that are in accordance with the requirements of a healthy environment, and measures to allow maintenance of the ecological balance in nature. This paper seeks to address the conditions that are important for organic production and considering the natural resources and new agricultural techniques to reduce pollution by analyzing the controlled production conditions and identify measures for sustainable development of high quality food, protection of ecosystems, as well as maintaining and increasing soil fertility.

Key words: *Natural resources Serbian, sustainable development, organic farming, environmental protection*

¹The work is part of the research project III 46006 "Sustainable agriculture and rural development in function of accomplishing the Republic of Serbia strategic objectives in the Danube region", financed by the Ministry of Education, Science and Technological Development of Republic of Serbia.

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RELATIONSHIP BETWEEN TOURISM AND SUSTAINABLE DEVELOPMENT OF RURAL AREAS IN THE DANUBE REGION

Snežana Štetić¹, Dario Šimičević²

Abstract

The Danube as the most important river in Europe and one of the Pan-European corridors represents the opportunity for better positioning of the Danube Region in Serbia in the domestic and international tourism market. This paper will point out the relationship between tourism and rural areas as well as significant involvement of tourism in the sustainable development of rural areas in the Danube Region in Serbia. Special attention will be drawn to the natural resources that are located within rural areas, as well as their diversity in the Danube region. It creates an opportunity to the development of sustainable agriculture to use the potential for revitalization of rural areas, more efficient placement of agricultural products and the involvement of local population in tourism trends on the side of tourism offer. The features of the Danube Region in Serbia afford the rural area to be engaged in various forms of tourist traffic, from classic rural tourism through gastro-tourism and wine tours, spa and mountain tourism to hunting, fishing and nautical tourism. Such potential in a relatively small area should be used to ensure a permanent and sustainable development and revitalization of languishing rural areas within the region.

Key words: *the Danube region, rural area, tourism, sustainable development, Serbia, the Danube*

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CONTRIBUTION OF ECONOMIC VALUATION TO ENVIRONMENTAL PROTECTION¹

Stojan Kostić², Vesna Rodić³

Abstract

Since the mainstreaming of the concept of economic valuation, there's been an intensive debate concerning its appropriateness, i.e. whether it is purely academic exercise or it serves a concrete purpose. In the paper the necessity of the use of economic valuation, both in terms of policy-making and in the process of environmental management decision-making has been analyzed. Based on the available literature, the authors gave an overview of the areas in which it is possible to apply the results of the economic valuation, as well as examples in the form of specific non-market valuation studies, in which economic valuation influence the final outcome in direct, indirect way or by altering debate.

Key words: *economic/nonmarket valuation, trade-off, environment, valuation techniques*

¹This paper is a result of a research within the projects III 46006 and OI 179028, financed by the Ministry of science, education and technological development of Republic of Serbia.

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PRODUCTIVITY OF OLD TYPE OF GRAINS AND GENETIC RESOURCES PRESERVATION¹

Svetlana Roljević, Biljana Grujić²

Abstract

This paper presents the status of wheat genetic resources at the global level and in the Republic of Serbia. According to the report of the Food and Agriculture Organization of the United Nations dated 2010 the collection of wheat consists by 45 % of the total number of samples stored in gene banks around the world. In Serbia, a collection “of wheat and corn”, is also better represented comparing to other collections, with approximately 32 % of the total number of samples stored and maintained in breeding farms. In addition, the paper points out on some of the most ancient wheat species gaining more value through the use of organic farming. A review of domestic and foreign relevant literature provides an overview of the research that examines old kind of wheat productivity in different production conditions during last years. The general conclusion appoints that these types can achieve very good results in terms of production with low investment, but further work on their breeding is necessary.

Key words: *grain, genetic resources, organic farming*

¹Paper work is part of the project research 46006 – “Sustainable agriculture and rural development in function of Republic of Serbia strategic goals achievement within the Danube region”, and project 179028 „Rural work market and rural economics of Serbia - diversification of income and decrease of rural poverty“ financed by the Ministry of Education and Science Republic of Serbia, member of researching team, period 2011-2014

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REGIONAL ASPECTS OF SUSTAINABLE TRADE WITH AGRICULTURAL COMMODITIES IN RUSSIA

Vasily Erokhin¹

Abstract

The paper aims at overview of the main regional aspects of sustainable trade with agricultural commodities in Russia, considering its trade relations with CIS countries, EU and USA and facing the current tendencies of trade integration. The research shows that liberalization brings the real threats to the food security of Russian regions and increases dependence on foreign agricultural and food commodities. The related problems are observed in some of the Eastern Europe countries as well. The paper is concentrated on discovery of the most perspective tools to overcome the negative influences of trade liberalization for Russia and its trade partners in Eastern Europe and CIS, as well as enhancement of inter-regional trade as a key factor of sustainable economic development.

Key words: *agricultural commodities, sustainable development, regional aspects, agribusiness, trade liberalization*

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COMMUNITY GARDENING AND URBAN PERMACULTURE DESIGN

Vesna Popović, Jelena Živanović Miljković¹

Abstract

Urban agriculture, especially intensive commercial production of fresh food reduces food miles, contributes to employment and growth of urban economy. However, intensive agriculture also suffers from numerous ecological risks related to soil, water, air, climate, biodiversity and landscape. Faced with various developments, citizens occupied with new lifestyle's trends toward healthy food and closer contact with nature seek for revival and strengthening of extensive forms of urban agriculture, such as community gardening, especially organic, based on permaculture design principles. In the paper, the authors analyzed trends in community gardening in Europe, particularly in light of their role in the application of permaculture design in the development of smart cities, as well as the possibilities of their establishment and development in the City of Belgrade.

Key words: *urban agriculture, community gardens, organic farming, ecological gardening, permaculture design.*

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THE COMPOSTING OF PLANT RESIDUES ORIGINATING FROM THE PRODUCTION OF MEDICINAL PLANTS¹

Vladimir Filipović², Vladan Ugrenović³

Abstract

As the areas under grown and collected medicinal, aromatic and spice plants (MASP) continues to increase, in addition to the processing and storage capacities, it is necessary to properly provide the storage, treatment and disposal of the waste that is generated that way. According to the national and EU legislation on waste management, the producer is obliged to properly store, treat and dispose of generated bio-waste. The great variety in the number of plant species of the grown and collected MASP, different collecting terms, different parts of plants used for medicinal purposes are just some of the benefits afforded by engaging in this activity, by which, in addition to the main produce, a producer, can provide an additional source of income. By the composting of the waste occurring in the production of MASP, a versatile final product is created, which, through its “healing” effect, affects the profitability of production, as well as the fertility and structure of the soil where MASP are grown and collected.

Key words: medicinal, aromatic and spice plants (MASP), production, waste, composting, compost

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III SECTION

THE CONSTRUCTION OF AGRO- REGIONAL IDENTITY THROUGH INSTITUTIONAL REFORM

INSTITUTIONAL REFORM AS A DETERMINANT OF RURAL DEVELOPMENT OF BOSNIA AND HERCEGOVINA

Adriana Radosavac, Jelena Premović¹

Abstract

For Bosnia and Herzegovina we can say that it is a rural country, given that more than a half of its population live in rural areas which cover about 80% of the country. Having in mind this fact, it is evident that rural policy - agriculture and rural economy, have the strategic importance for B&H and its further development. Institutional reforms of the rural development policy of B&H are the first step in the process of rural economy improvement, but also a precondition of the overall sustainable development of the country. The main objective of this work is to point out the role and problems of reforming rural development policy of Bosnia and Herzegovina in the contemporary socio-economic and political environment.

Key words: *reform, rural areas, EU integrations, rural policy, EU funds*

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PLANT PRODUCTION IN THE DANUBE REGION - TRENDS AND RANKING OF MUNICIPALITIES*

Blaženka Popović¹, Tamara Paunović²

Abstract

Rural areas in the Republic of Serbia cover 85% of the country, with more than half of the total population (55%). Since it is largely rural area, the promotion of rural development and diversification of economic activities represent an opportunity for development of the Danube region, and thus a chance to increase employment. In this paper, an analysis of plant production was carried out in 26 municipalities in the Danube region during the period from 2002nd to 2011th year. Based on available statistical data, the production of wheat, corn, sugar beet, sunflower, beans, potatoes, clover, alfalfa, meadows, pastures, apples, plums and grapes was analyzed, as well as tendencies in the past ten years. Development level of plant production in municipalities in the Danube region, is determined based on the I-distance, respectively, based on synthetic rank, which shows how municipalities are ranked according to the representation of plant production.

Keywords: *plant production, The Danube Region, municipalities, I-distance.*

* Work is the result of research funded by the Ministry of Science and Technological Development: "Development and Application of new and traditional technologies in the production of competitive food products with added value for domestic and world markets – CREATE WEALTH FROM THE WEALTH OF SERBIA".

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POLITICAL AND INSTITUTIONAL DIMENSIONS OF REGIONAL RURAL DEVELOPMENT IN SERBIA

*Dejan Janković, Marina Novakov**

Abstract

In this paper, the authors analyze rural development in the context of the political and institutional preconditions for the realization of this process. The authors take the concept of territorial rural development and decentralization as the main theoretical and methodological framework and analyze the processes that take place in Serbia, attributing a great importance in rural development to the local governments. On the basis of the number and structure of strategic documents, their initiation and implementation, as well as the training needs of the local administration, the authors make conclusions about insufficient institutional capacity of local governments in Serbia and, in particular, the capacity in terms of activating the issue of rural development. These findings are consistent with the findings of other authors who point to the importance of the presence of institutions and their optimal quality for local and regional rural development.

Keywords: *local and regional rural development, decentralization, local (self) government*

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PREPARATION OF B&H INSTITUTIONS FOR THE IMPLEMENTATION OF RURAL DEVELOPMENT WITHIN CAP

Dragan Brković¹, Pavol Schwarcz²

Abstract

The paper is based on research preparedness of Bosnia and Herzegovina (BiH) institutions responsible for the implementation of rural development policy to implement rural development within CAP, also it explores legal arrangement of BiH institutions working in the field of rural development. If BiH intends to join the European Union (EU), it is essential to synchronize rural development policy with the EU Common Agricultural Policy (CAP). The paper research the level of synchronization of existing rural development policies in BiH with the rural development within the CAP. In research, semi-structured interviews were used with representatives of all government institutions in charge of implementation rural development policies at the territory of BiH. Considering the findings and results, conclusions are formulated to finalize the evaluation of the preparation of B&H institutions for implementation of rural development within the CAP.

Key words: *BiH, rural development, CAP, EU*

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DISTRIBUTION EFFECTS OF AGRICULTURAL POLICY OF REPUBLIC SERBIA

Koviljko Lovre, Marinko Kresoja¹

Abstract

The primary goal is to approximate efficiency and consequences of measures and instruments, at the level that satisfy the volume and quality of statistical material, without getting into the evaluation of completeness and inter-conditionality of the governmental set of measures in some segments of the policy. In addition, the history is not of great importance; therefore, the paper will be primarily concentrated on the first decade of the 20th century, i.e. the changed political and macroeconomic conditions. The task is not very simple for two reasons. First, authors are not informed about works in the domestic literature, which, except the descriptive approach, quantitatively and analytically deal with the efficiency of measures and instruments of the Serbian agrarian policy in the recent past, in spite of the developed econometrical and statistical instruments. Therefore, authors had to rely on different statistical materials being mutually incomparable for information quality.

Key words: *Agricultural policy, Demand, Economic position, Supply, Support.*

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HUNTING LEGISLATION IN TERMS OF SERBIAN RURAL DEVELOPMENT – HISTORICAL REVIEW

Milan Počuča,¹ Sara Počuča²

Abstract

Hunting, as a significant economic activity, which realizes on the total territory of the Republic of Serbia, has been institutionally connected to water management and agricultural activity, the environment protection through common goals, interests and an unique government body, the Ministry of Forestry, Water Management and Agriculture within the Government of the Republic of Serbia. Public companies, companies, citizens' associations, hunting workers in Serbia the most often, along with the hunting activity, do also the activities connected to agricultural production, livestock breeding, forest exploitation and fishing. The rural development of Serbia and the Danube region, as significant region within the country, has been inconceivable without development of hunting activity, too. Institutional arrangements of hunting legislation surely follow total efforts of the society to provide, through a normative arrangement and adjustment and harmonization with the EU directives, the rule of law and strengthening of legal security, as basic preconditions for strong rural development of Serbia and the Danube region. On the Serbian territory, the organized hunting and the hunting legislation have more than 170 years lasting tradition.

Key words: *hunting, game, agricultural land, international document.*

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SOME ASPECTS OF IMPROVING CENTER FOR SMALL GRAINS, KRAGUJEVAC WITHIN DISLOCATION AND TRANSFORMATION¹

Milivoje Milovanović, Kristina Luković**

Abstract

This paper deals with some aspects in the goal of solution the problem of dislocation of part of productive and the trial plots of Center to a new location, as well as part of storage and other facilities related to the production, storage and processing seeds. As part of that also it is planned solving of numerous accumulated problems related to the business transformation and upgrading, strengthening of personnel and modernization of technical capacities, leading to sustainable operation and future development of the Centre. Solving the problems related to small grains would be to benefit the wider community of Serbia, mainly from the regions of Šumadija and Central Serbia. In order to benefit also would be a whole agriculture of R.S. and of the region, since by preservation and improving this institution with 115 years of tradition will be made a significant contribution to improving the supply of seed, biodiversity and expert knowledge in the field of small grains, which would lead to a more stable future agricultural production with positive and upward trend of incomes, to improving the competitiveness of the Center and to better supply the market.

Keywords: *Center for Small Grains Kragujevac, transformation, dislocation, improving*

¹ This paper was supported by the Ministry of Education and Science of R. Serbia, under the project: III 46006.

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A REGIONAL PURCHASING CENTER FOR SUSTAINABILITY OF THE RURAL AREA OF SREMSKA MITROVICA MUNICIPALITY¹

Nada Kosanovic², Dragan Rahovic³

Abstract

The main objective of this study is to assess potentials and opportunities for developing new programs in agriculture in order to revive the countryside, develop local economy, and thus the sustainability of local and regional rural areas. The main objective for the sector is to construct a regional agricultural purchasing center with modern facilities for storing agricultural products targeted for the Russian market; to increase the number of areas under intensive fruit crops and to increase total production with achieving high-quality fruit that meets the standards of foreign and domestic markets. The project of building a regional purchasing center for storing agricultural products is going to be defined based on the data on agricultural potential of Sremska Mitrovica and a SWOT analysis of the economy of this municipality.

Key words: *regional purchasing center, funding, agriculture, municipality of Sremska Mitrovica.*

¹ The paper came as a result of the III-46006 Project “Sustainable Agriculture and Rural Development in Terms of the Republic of Serbia Strategic Goals’ Implementation within the Danube Region”, financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

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THE INSTITUTIONAL FRAMEWORK FOR THE SUSTAINABLE DEVELOPMENT CONCEPT*

Radojica Sarić¹

Abstract

The sustainable development concept represents the modern developmental approach which views development as a complex system which integrates three basic development dimensions, those being the economy, the society and the environment. Besides the traditional approach to reflection on the sustainable development concept in the form of three basic development dimensions, more and more significance is being given to a newer approach which incorporates a fourth dimension in the form of an institutional component. This paper analyses the institutional framework for the sustainable development concept. The basic goal of the paper is to point out the role and significance of the institutional dimension from the aspect of equal contribution to realization of sustainability in the modern development environment.

Key words: *the sustainable development concept, institutional framework, modern development environment*

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FINANCIAL ROLE OF THE STATE IN THE DEVELOPMENT OF RURAL TOURISM IN THE REPUBLIC OF SERBIA

Radovan Pejanović, Gordana Radović¹

Abstract

The aim of the paper is to present and analyse the state's financial role in the development of rural tourism in the Republic of Serbia and to point out the importance and economic necessity of this type of support. Taking into account all the existing potentials for the development of rural tourism, as well as current degree of rural poverty, unemployment, depopulation and underdevelopment of the rural areas, the authors tried to point out that the development of this type of tourism, as a segment of multifunctional agriculture, can serve as a generator for the rural development in the Republic of Serbia. Based on the conducted research, the authors of the paper state that Ministry of Economy has recently realized (quantitatively) the most important financial support, testifying their acknowledgement of rural tourism as the key factor of the development of Serbian tourism. However, it is crucial for this trend to be continued in the coming period, as well as to provide state financial support for pre-financing of investments, whose end investor would be EU pre-accession funds. The state's financial support should be based on the adequate development documentation whose effects should be systematically monitored.

Key words: *rural tourism, development, state's financial support, Republic of Serbia*

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RURAL DEVELOPMENT MODEL OF BOSNIA AND HERZEGOVINA

Stevo Mirjanić, Gordana Rokvić¹

Abstract

The new rural development policies are focused on the definition of effective mechanisms to ensure coordination of the development of agriculture and other activities in rural areas in accordance with the principles of sustainable development, in order to improve the standard of living and quality of life. Historical and cultural heritage, social structure, level of development of economy and society, as well as other relevant parameters differ considerably among European countries. Therefore, there are significant differences in the objectives, institutional and financial support and general conceptual approach to rural development. Overcoming regional development disparity is no longer the main focus of policy development in rural areas. The main objective of the research was to develop an optimal model for rural development in Bosnia and Herzegovina based on the analysis of the current policy frameworks and EU policy requirements. The ultimate goal is to define an optimal model for the encouragement of sustainable development of rural areas and to find the most effective policy to be implemented at various levels of government institutions in Bosnia and Herzegovina.

Key words: *rural development model, sustainable development, integrated rural development*

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FINANCIAL INSTRUMENTS FOR ENVIRONMENTAL PROTECTION PROMOTION

Svetlana Ignjatijević¹, Dragomir Đorđević²

Abstract

Research subject of this paper is analysis is the function of economic instruments in environmental protection, with a goal to emphasize the importance of ecological taxes and the necessity of rational usage of limited natural resources. In this paper comparative analysis is used in order to look at the ecological tax system in EU countries, neighboring countries and our country as well. Through research it was found that experiences in the application of ecological taxes are modest. In Scandinavian countries the level of awareness of the importance of environmental protection and revenues from ecological taxes is high. Unfortunately, the application of ecological taxes in Serbia is still relatively modest, even though a progress was recorded in recent years. It is necessary to encourage the use of ecologically friendly technologies, fuels and energy sources that minimally damage the ozone layer.

Key words: *ecological tax, economic instruments, environment*

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SERBIA AS A COUNTRY FREE OF TRANSGENIC PRODUCTION - STATES AND CHALLENGES

Tatjana Papić Brankov¹

Abstract

The paper discusses Serbian policy on genetically modified organisms (GMOs). In this analysis it has been considered four factors: Serbian public attitudes towards GMOs, the pressure of the Great Powers, activities of non-governmental organizations and the anti-GMO movements, and the government position of the issue. In order to declare the entire state free from GMOs Serbia should establish a proper system of food chain control as well as strengthen movement activities to combat GMOs.

Key words: *GMOs free Serbia, pressure, public attitudes, Law*

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ECONOMIC POSITION OF AGRICULTURAL ENTERPRISES OF VOJVODINA¹

Veljko Vukoje, Tihomir Zoranović²

Abstract

This study analyses basic indicators of the economic standing of agricultural and food production enterprises, at the territory of AP Vojvodina, (Autonomous Province of Serbia), in a period of one year, from 2001 to 2011. The analysis demonstrates that, in spite of the increasing levels of business activities during the observed period, it did not result in realization of the expected results and more favourable conditions for improvement of agricultural business. Agricultural enterprises of AP Vojvodina recorded positive financial results only in two observed years, out of eleven, and with quite modest profit rates of 0.22% (2006) and 2.42% (2007). Low profitability of production followed by accumulated losses represents one of the basic reasons for deterioration of the company financial structure. The level of indebtedness of 67.2% (2011) can be estimated as very high for agricultural enterprises, which, through the expenditures of financing, significantly reduces financial results.

Key words: *agriculture, food industry, balance sheet analysis, financial standing, financial results*

¹This study is the result of the research within the project T-31058 and III-46006 partly financed by the Ministry of Education and Science of the Republic of Serbia.

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BUILDING MARKET RECOGNITION OF THE DANUBE REGION IN SERBIA THROUGH AGRO CLUSTER DEVELOPMENT

Vesna Paraušić¹, Branko Mihailović²

Abstract

This paper deals with resource and operational capacities of the existing agro clusters in the Danube region in Serbia and the potentials for their development. The objective of this paper is to understand the level of development of agro clusters in the Danube region and to propose actions and measures to strengthen their capacities, so they could contribute to the competitiveness and recognition of farmers and the region analyzed on the international agricultural market. In paper the method of desk research has been used along with a survey in the form of interview with representatives of registered agricultural clusters. The results show that agricultural clusters in the analyzed region are still in the initial stage of development, their operational capacities are underdeveloped and they are unrecognized on the market. In the future, along with transnational approach, support to cluster development should receive already existing clusters, as well as clusters that will develop in the geographical areas that already have market recognition in some agricultural production, where producers are concentrated and associated, and where there is uniqueness and tradition in the production, as well as high production and export performance.

Keywords: *agro clusters, competition, recognition, Danube region in Serbia, the EU Strategy for the Danube Region.*

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BOND MARKET AS A FACTOR IN COMPETITIVENESS IMPROVEMENTS OF SERBIAN AGRI-FOOD SECTOR*

Vladimir Zakić¹, Vera Mirović²

Abstract

In the following decades, the world is expecting a significant increase in food prices, which is a great opportunity for the economic development of Serbia. The rapid development of the agri-food sector requires significant investments, which is not possible without the development of capital markets. The domestic capital market is currently characterized primarily by expensive bank loans and limited subsidized loans. As a significant alternative to the bank loans stand out the bond market. The aim of this study is to determine the current state of debt securities market and to provide guidelines for its development in order to improve the competitiveness of the agri-food sector in Serbia.

Keywords: *agri-food sector, lending, bonds.*

* This paper is a result of the research projects No. 179028 - “Rural labor market and rural economy of Serbia - Income diversification as a tool to overcome rural poverty” financed by the Ministry of Education and Science of the Republic of Serbia

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SUBSIDIES AND INCENTIVE ASSETS FUND FOR AGRICULTURAL DEVELOPMENT CITY OF NIS¹

Zoran Simonović², Slavomir Miletić³

Abstract

The authors talk about subsidies and incentive funds in livestock and crop production, which gives the Agricultural Development Fund of Nis. Now that pays special attention to agricultural development, local government has an important task. It is the local government becomes the creator and promoter of the development of agriculture. Of adoption of these incentives and subsidies should be the creation of favorable conditions in line with the potential and needs continuity in development activities, human, institutional, business solutions, financial support and everything that can greatly contribute to the rapid development of agriculture and rural areas. The paper is divided into two parts. The first part is a list of incentives related to crop and livestock production which gives the Fund for Agricultural Development. The second part discusses the results of a survey conducted among the farmers who live and work in the City of Nis on incentive funds and subsidies provided by the city.

Keywords: *incentives in agriculture, subsidies, programs of improvement, a survey.*

¹ Paper is part of the research project III 46006 - Sustainable agriculture and rural development in order to achieve the strategic objectives of the Republic of Serbia within the Danube region, financed by the Ministry of Education and Science of the Republic of Serbia.

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