

Vol. 7 (2): 199-206 (2017)

IRON GATE I RESERVOIR – ECOLOGICAL EVOLUTION, ROMANIA

Olivia Cioboiu, Gheorghe Brezeanu

*The Oltenia Museum, Craiova, Romania;
The Biology Institute of the Romanian Academy, Bucharest, Romania;*

E-mail: oliviacioboiu@gmail.com; cioboiu.olivia@yahoo.com;

Received May, 2016; Accepted December, 2016; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/98542896>

ABSTRACT

The construction of the dam on the Danube in the area known as the Iron Gates led to the formation of the biggest reservoir of the river the length of which is of about 100 km. The depth of the reservoir near the dam is of 30 m. Due to the construction of the reservoir more than 10,000 ha of Romania's territory were flooded. Under these circumstances, there took place major transformations in the structures of the Danube's biocoenosis. In this new environmental conditions certain species disappeared (those characteristic to the springs and to the terrestrial liable to floods areas), some restricted their spreading areas (it is about fish especially), while the others, which occupied a limited space within the structural spectre of the biocoenosis before the construction of the reservoir, rapidly increased in number and became dominant species in the ecological configuration of the ecosystem (as it is the case of the mollusc *Dreissena polymorpha*). Thus, there appeared biocoenosis characteristic to the lacustrine ecosystems. The research emphasized three major stages in the ecological evolution of the reservoir: 1971-1972, disappearance of the reophile biological processes, as well as the intensification of the eutrophication process characterized by the increase of phytoplankton and zooplankton production; 1972-1973, stabilization of plankton production; 1973-1974, diminution of plankton production; 1974 and further on, setting up of a dynamic balance of the fluvial-limnic ecosystem. At present, the structure of the zoobenthos, as well as of the phytoplankton and zooplankton is characteristic to the limnic-reophilic ecosystem.

Key words: reservoir, ecological evolution, Iron Gate, Romania.

Vol. 7 (2): 207-212 (2017)

**PRELIMINARY INFORMATION ABOUT THE ICHTHYOFAUNA
SITUATION FROM THE CILIENI LAKE – BĂILEȘTI, DOLJ –
ROMANIA**

Ionelia Claudia Goga

The Oltenia Museum, Nature Sciences, Romania;

Email: ioneliagoga@yahoo.com;

Received May, 2016; Accepted December, 2016; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijees/17003667>

ABSTRACT

The purpose of this paper is to present the actual situation of the ichthyofauna from the Cilieni Lake. It is an alarm signal to the mode of how some protected areas are exploited destructively from the piscicultural point of view, without repopulating and cleaning out these basins.

Key words: protected area, ichthyofauna.

Vol. 7 (2): 213-218 (2017)

FEEDING ECOLOGY OF OLIVE BABOON (*PAPIO ANUBIS*) IN ARBA MINCH FOREST, ARBA MINCH, ETHIOPIADagnachew Mullu^{1*}¹Department of Biology, Arba Minch University, Post Box No: 21, Arba Minch, Ethiopia;Email: dagnachew.mullu@yahoo.com

Received May, 2016; Accepted December, 2016; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/69912804>**ABSTRACT**

The diet of Olive baboon (*Papio anubis*) were assessed at Arba Minch Forest within Nech Sar National Park in Arba Minch, Ethiopia. They normally eat seed, flowers, woody bark, insects, buds, etc. Olive Baboon dietary data were collected for 15 days at 9 to 11 hours by members of the study groups during scan sampling. During the activity of scan sampling, the type of food item: leaves, roots, stem, flower, fruit, shoot, bark, bud or animal prey and the type of species consumed were recorded on a standardized data sheet in each transect line. The frequency of food items observed in the field varied in the study area. Fruits (27.97%) constituted the largest portion of the diet of the Olive Baboons during this study. There were 6 items of food in the feeding ecology of Olive Baboons in the ground water forest, Nech Sar National Park, as revealed during the present study. The homogeneity of the habitat in the Ground water forest of Nech Sar National Park might have contributed to the less variety of food items. Olive Baboons are known to eat diverse food items. Fruits were a major food items for an extended time. This may be due to most plants in ground water forest had fruits throughout the year with very little monthly variation. Based on the data of the present study, Olive Baboons are considered as generalists inhabiting different habitats. From the current project we recommend that it is possible to enhance the number of plant species which can give fruit for Olive Baboons.

Key words: buds, feeding, generalist, Olive baboon, transect line, woodbark

Vol. 7 (2): 219-228 (2017)

CONSTRAINTS TO CLIMATE CHANGE ADAPTATION AMONG CASSAVA WOMEN FARMERS: IMPLICATIONS FOR AGRICULTURAL TRANSFORMATION AND FOOD SECURITY IN EBONYI STATE, NIGERIA

Simeon Okpoto Eze*

*Department of Rural Sociology and Extension, Michael Okpara University of Agriculture, Umudike, P.M.B 7267,
Umuhia, Abia State, Nigeria.*

*E-mail: simoeze2004@yahoo.co.uk;

Received December, 2016; Accepted January, 2017; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/80716367>

ABSTRACT

The study investigated constraints to climate change adaptation among cassava women farmers and highlighted implications for agricultural transformation and food security in Ebonyi State, Nigeria. The study described the socio-economic characteristics of cassava women farmers, ascertained major manifestations of climate change, determined constraints to women adaptation in cassava production and highlighted implications for agricultural transformation and food security in Ebonyi State, Nigeria. A total of 160 cassava women farmers randomly selected constituted the sample size for the study, while structured interview guide was employed for data collection and frequency counts and percentages, multiple regression and factor analysis techniques were employed. Results show that majority (56.9%) of the women farmers were within the ages of 31-50 years, while majority (70.0%) had SSCE/WASC/GCE O/L qualifications and majority (60.1%) reported estimated annual income of N51,000.00-N150,000.00. Some of the major manifestations of climate change effects in cassava production were reported as hotness of weather (-6.611), variability in relative humidity (3.488), and frequency of flood (-2.585). Principal factors such as; lack of institutional support, inadequate socio-cultural attitude and poor managerial skill were identified as constraints to climate change adaptation in cassava production. The study highlighted implications for agricultural transformation and food security on improved extension training in farmers groups, group resources management, improved funding to extension and extension training on climate change adaptation. Effectiveness in adaptation to climate change for cassava based agricultural transformation and food security in Ebonyi State, Nigeria depends on the extent major climate change effects raised and constraints identified can be addressed and sustained. The study recommends government provision of basic infrastructure, access to cassava inputs, improved extension services on climate change adaptation and women groups' resources management.

Key words: Agricultural transformation, Climate change adaptation, Food security, Nigeria, Women farmers.

Vol. 7 (2): 229-234 (2017)

PHYTOPLANKTON STRUCTURE IN SCADAR LAKE

Lirika Kupe¹

¹*Agricultural University of Tirana, Faculty of Agriculture and Environment, Tirana, Albania;*

Email: lirika_kupe@yahoo.com; l.kupe@ubt.edu.al;

Received December, 2016; Accepted January, 2017; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/21662521>

ABSTRACT

Ecological evaluation of Scadar Lake is based in biomonitoring, especially in phytoplankton correlated with nutrient enrichment. Sampling sites were selected in the Scadar Lake of Albanian side. The present study aimed at comparing phytoplankton and *Chlorophyll a* as bioindicators of water quality in Scadar Lake. Changes in phytoplankton community structure, *Chlorophyll a* peak and nutrient concentrations indicated that the trophic level of the lake is still eutrophic. Phytoplankton is widely considered to be the first biological community to respond to eutrophication pressures and is the most direct indicator of all the Water Framework Directive. Utermöhl method (Utermöhl 1931 and EU Guidance Standard (EN 15204:2006) was used for estimation of the phytoplankton (ind-L). About 19 taxa of microscopic algae were found in Scadar lake. Phytoplankton, belonging mainly to *Bacillariophyceae* (Diatoms), *Xanthophyceae*, *Chlorophyceae*.

Keywords: Scadar lake, biological monitoring, phytoplankton, *chlorophyll a*.

Vol. 7 (2): 235-244 (2017)

USE OF BIOCHEMICAL AND HISTOLOGICAL MARKERS OF *BARBUS PELOPONNESIUS* FOR THE ASSESSMENT OF POLLUTANT CONTAMINATION OF THE VARDAR RIVER, R. MACEDONIA

Gazmend Iseni¹, Nexhbedin Beadini¹, Maja Jordanova², Katerina Rebok²,
Arburim Iseni^{1*}, Sheqibe Beadini¹, Hesat Aliu¹, Xhezair Abdija¹

¹State University of Tetovo, Department of Biology, Tetovo-Macedonia;

^{1*}State University of Tetovo, Department of English Language and Literature, Tetovo-Macedonia;

²Institute of Biology, Ss. Cyril and Methodius University, Skopje-Macedonia;

*Email: arburim.iseni@unite.edu.mk

Received December, 2016; Accepted January, 2017; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijees/07789673>

ABSTRACT

Biochemical and histopathological analysis for the assessment of the exposure of the aquatic organisms towards the environmental pollution has found a great use in biomonitoring studies of aquatic ecosystems. Biochemical markers, concretely, the liver enzymes of the first phase of transformation of xenobiotics-cytochrome P450 (CYP450), ethoxyresorufin-*O*-deethylase (EROD) and the histological markers, concretely, histopathological changes in the liver parenchyma were used in this study to assess the aquatic environmental pollution of the locations of the river Vardar in the Republic of Macedonia. The selected locations of this river were Vardar river near Vrtok – control station (L1), Vardar river in Jegunovce (L2), Vardar river on the outskirts of Skopje (L3) and Vardar river on the outskirts of Veles (L4). As an indicator species was selected *Barbus peloponnesius* V. High levels of catalytic activity of EROD in the liver of this fish was highlighted in the Vardar river in Jegunovce ($141.71 \pm 7.59 \text{ pmol min}^{-1} \text{ mg}^{-1} \text{ protein}$), in the Vardar river on the outskirts of Skopje ($132.43 \pm 7.16 \text{ pmol min}^{-1} \text{ mg}^{-1} \text{ protein}$) and in the Vardar river on the outskirts of Velesit ($104.34 \pm 8.86 \text{ pmol min}^{-1} \text{ mg}^{-1} \text{ protein}$), compared to the catalytic level of EROD in the liver of this fish of the control group ($2.41 \pm 0.23 \text{ pmol min}^{-1} \text{ mg}^{-1} \text{ protein}$). From the histopathological analysis of the fragments analyzed in the liver parenchyma of these fish which were collected in the bottom flows of the river Vardar were ascertained many histopathological changes. The results of this study authenticate the pollution in localities along the downstream of the river Vardar. The results show that the use of chemical and histological markers for assessing water quality is an appropriate method that can fit with the classical methods of monitoring the pollutants.

Keywords: Biochemical markers, histological markers, Cytochrome P450, EROD, CYP1A, *Barbus peloponnesius*, aquatic ecosystems, pollutants.

Vol. 7 (2): 245-250 (2017)

FUNCTIONAL TRANSFORMATION OF SETTLEMENTS IN PRESHEVA VALLEY

Arsim Ejupi

University of Prishtina, Department of Geography, Prishtina, Kosova;

Email: arsim.ejupi@uni-pr.edu

Received December, 2016; Accepted January, 2017; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/62932033>

ABSTRACT

Besides population and morphology, functions of settlements represent another important feature of settlements. Heterogeneity of the functional structure of rural and urban areas, different positions of their role within the settlements network affects different level and direction of their transformation. Settlements as permanent places of concentration of population and activities have internal and external functions. Internal functions results from the settlement functional elements and relations between them, and through them integrate external functions with nearby settlements that gravitate towards them or vice versa. The aim of this paper is to analyze functional features, level and directions of functional transformation of settlements network in Presheva Valley, different level of functional transformations between albanian settlements and those mainly inhabited by serb ethnicity.

Keywords: Settlements, Presheva Valley, functions, albanians, population, transformation

Vol. 7 (2): 251-262 (2017)

APPLICABILITY OF PAYMENTS FOR ECOSYSTEM SERVICES MECHANISM IN WATER RESOURCES PROTECTION IN TURKEY

Saim Yildirimer¹, Ufuk Demirci^{2*}

¹²Artvin Çoruh University, Faculty of Forestry, 08000, Artvin, Turkey;

*Email: udemirci08@artvin.edu.tr

Received December, 2016; Accepted January, 2017; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/42604973>

ABSTRACT

Water is a valuable and limited resource with indispensable importance for all creatures and especially humans to be able to maintain their lives. To obtain intended quantity and quality of water in a sustainable way, watersheds need to be protected. Watersheds are protected through legislative regulations, protection programs and financial incentives. In this study, it is aimed to determine and evaluate opportunities provided by payments for ecosystem services (PES) mechanisms, which is one of these financial instruments. Within this scope, PES initiatives samples aiming to protect and enhance watersheds around the world is analyzed and applicability potential of these mechanisms in Turkey is evaluated. It is determined that in Turkey, various PES programs are viable areas for watershed management.

Keywords: watershed management, watershed protection, financial instruments, payments for ecosystem services.

Vol. 7 (2): 263-268 (2017)

ANNUAL DYNAMICS OF INDICATORS OF ABUDANCE (CELLS/ML) FOR SOME OF THE TOXIC ALGAE WHICH ARE PRESENT IN INPHYTOPLANKTON IN THE LAGOON OF NARTA

Romina Libohova^{1*}, Rigerta Sadikaj², Klementina Puto², Dritan Arapi²

¹University Aleksander Mojsiu, Durres, Albania;

² University of Tirana, Blvd. Zogu 1, 1001 Tirana, Albania;

E-mail: rsadikaj@hotmail.com

Received December, 2016; Accepted January, 2017; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/31274631>

ABSTRACT

During 2014 in the lagoon of Narta (Vlore) was studied species resource composition and features of seasonal abundance dynamics (cells/ml) for three classes of potentially toxic phytoplankton (Dinophyceae, Bacillariophyceae and Dictyochophyceae) which are components of this basin biocenoses. Taxonomic classification proved the existence of 9 dinoflagellate algae species, 5 types of diatoms and 1 silikoflagellate. Dinoflagellate *Alexandrium tamarense* create dense populations, with a monthly average abundances of $NM=654.2$ cells/ml. Among diatoms greater density we found for *Pseudo-nitzschia seriata* ($NM=654.2$ cells/ml). Dinoflagelates create the dense population in the period from April to June ($NM=3560$ cells/ml), while for diatoms higher value of abundances is listed in the periods from January to March and November to December ($NM=1530$ cells/ml). Change seasonal abundance values, for two large groups of plankton algae present in the lagoon of Narta, had favored alternating dominance typical species, creating situations to the presence of potentially toxic algae in every season.

Key words: Potentially toxic algae, lagoon, abundance, eutrophic, dinoflagellate, diatom.

Vol. 7 (2): 269-274 (2017)

ANCIENT KAREZ SYSTEM AS A SUSTAINABLE TOOL FOR IRRIGATION AND WATER SUPPLY IN RURAL AFGHANISTAN

Abobakar Himat¹, Selim Dogan¹

¹*Department of Environmental Engineering, Selcuk University, Konya 42031, Turkey;*

Emails: abobakar.himat@gmail.com; selim@SelimDogan.com;

Received December, 2016; Accepted January, 2017; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/78788207>

ABSTRACT

Ancient Karez is sustainable and environmentally friend irrigation and water supply system in rural Afghanistan. By operating Karez system there would not be decline in underground water table. The water of Karez is fresher, cooler and cleaner; there is no need for any water treatment. Afghanistan has approximately 33 million population which most of them %80 live in rural regions. The rural inhabitants are poorer than the urban inhabitants. The life of rural inhabitants are dependent on agriculture and livestock. The inhabitants of rural communities use the Karez system for irrigation, livestock, drinking and domestic water use as well. Afghanistan is landlocked country and located in arid and semi-arid climate region. The south and southwestern of Afghanistan has arid climate, in these arid regions most of the Karez systems remained from ancient times, which some of them damaged and destroyed during the three decade of war and prolonged drought. For Karez viability there is need for adequate precipitation and suitable alluvial fan areas. Precipitation as snow melting during the year and feeds the mother well of Karez system. Karez is an ancient hydraulic engineering technology, which is common in arid climatic zones for irrigation and water supply purposes. Karez is hand-digging system, which is digs by professional Karez digging person (Karezkan). In rural communities, there is no modern water supply systems, inhabitants of rural communities have to manage water by their community's rules. Some of them dig Karezes and wells for irrigation and domestic water supply. In this study, we assess the importance of Karez system in rural Afghanistan.

Keywords: Karez, irrigation system, water supply, rural Afghanistan, arid climate.

Vol. 7 (2): 275-280 (2017)

DYNAMIC ANALIZATION OF WATER PH IN LAGOONS OF NARTA AND ORIKUM IN ALBANIA

Romina Libohova^{1*}, Rigerta Sadikaj², Klementina Puto², Dritan Arapi²

¹University Aleksander Mojsiu, Durrës, Albania;

²University of Tirana, Blvd. Zogu 1, 1001 Tirana, Albania;

E-mail: rsadikaj@hotmail.com

Received December, 2016; Accepted January, 2017; Published January, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/24588353>

ABSTRACT

In this study we focused on the analysis of a chemical parameters (pH) of water for Narta lagoons and Orikumi. Analysis of physical and chemical parameters of water for two lagoons that were included in the survey have been conducted in the period June 2012 to May 2013. Every month is done by an evaluation. Two predetermined stations in any of the lagoons, the day the valuation is made for each parameter are measured from eight values (two facilities for each moment and each main sampling depth). Narta lagoon range of change of the value of pH, judging for the water mass in the vertical direction, has resulted from the minimum value of 6:10 up to the maximum value of 8.9. For lagoon Orikumi this range has resulting from the minimum value to the maximum value of 6.5 to 9.2. The average annual values of this parameter were $0.157 \pm 7:42$ (Var% = 2.12), for the Orikum lagoon and $7:38 \pm 0227$ (Var% = 3:08) for the lagoon of Narta. By analyzing the dynamics of the measured values of pH we can say that the Narta lagoon waters and Orikum are not affected by the phenomenon of acidification.

Key words: dynamic analization, water, ph, lagoon Narta and Orikum, Albania.

THE INFLUENCE OF TUMOR VOLUME IN THE DOSE DISTRIBUTION DURING TREATMENT OF BREAST CANCER

Labinot Kastrati¹, Gazmend Nafezi^{*2}, Meleq Bahtijari³, Burim Uka¹, Behar Raci¹, Arta Kameri-Jusufi¹,
Lutfi Istrefi²

¹Department of Radiotherapy, Institute of Oncology, University Clinical Center of Kosovo, Pristina, Kosovo;

²Department of Physics, Faculty of Mathematical and Natural Sciences, University of Prishtina "Hasan Prishtina",
Pristina, Kosovo;

³Medical Faculty, University of Prishtina "Hasan Prishtina", Pristina, Kosovo;

Email: labinotkastrati82@gmail.com; * gazmend.nafezi@uni-pr.edu;

Received December, 2016; Accepted January, 2017; Published February, 2017;

DOI license: <http://u-o-i.org/1.01/ijeess/04418377>

ABSTRACT

The aim of this investigation is the study of dose distribution during treatment of breast cancer. The idea is the comparison of dose distributions of 6MV photon's energy with 15 MV photon's energy in the cases of mastectomy, when the breast is not present in the body and in cases when the breast is present. In these cases, the Tumor Volume (TV) is larger than in mastectomy cases. We have used Dose Volume Histogram (DVH) for analysis of dose distributions. The results were different. In the cases when the tumor volume was larger, the photons with energy 15MV have given better dose distribution, as long as in cases of smaller tumor volume, when the dose distribution was worst and vice versa. The conclusion is that, in cases of patients with mastectomy is better to use photon's energy of 6MV, because the tumor volume is smaller, and as a result the dose distribution is better and vice versa for photons with energy 15MV.

Key words: Dose distribution, mastectomy, breast, DVH, TV

Vol. 7 (2): 285-290 (2017)

BURDEN OF FOODBORNE DISEASE: PILOT STUDY IN ALBANIA PROGRESS REPORT

Lindita Molla^{1*}, Enver Roshi¹, Rob Lake³

¹*Institute of Public Health, Health & Environment Department, Food Safety & Nutrition Section, "Aleksander Moisiu", Nr 80, Tirana, Albania;*

²*Institute of Environmental Science and Research Ltd, P O Box 29-181, Christchurch 8540, New Zealand;*

*Email: lindimolla2002@yahoo.com

Received December, 2016; Accepted January, 2017; Published February, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/61521108>

ABSTRACT

In September 2006 the World Health Organization (WHO) Department of Food Safety and Zoonoses launched an initiative to estimate the global burden of foodborne diseases. Two of the three objectives of the initiative are to strengthen national capacity to conduct burden of foodborne illness studies and promote the use of results in policy. This paper describes progress on a national burden of foodborne illness study in Albania. Human health surveillance and food safety agencies in Albania are described as part of a situation analysis. Data from these agencies includes reported cases of gastro enteric disease, food poisoning but etiologic data are few. *Ad hoc* studies of other potentially foodborne diseases (parasitic and viral infections) have been conducted, but the importance of foodborne transmission is unclear. Data on the prevalence of hazards (particularly chemicals) in the food supply are very limited. The global and regional estimates provided by the WHO initiative will help fill data gaps and provide context to assist estimation of the burden of foodborne disease in Albania.

Key words: food safety, WHO, zoonoses, foodborne, Albania

CLINICAL MANIFESTATIONS OF SEASONAL INFLUENZA IN ADULTS

Lorenc Konomi^{1*}, Artan Simaku², Entela Kolovani³, Ergys Ramosaço³, Najada Çomo³,
Enver Roshi⁴, Silva Bino²

¹*Catholic University "Our Lady of Good Counsel" Tirana, Albania;*

²*Institute of Public Health, Tirana, Albania;*

³*Infectious Diseases Service, University Hospital Centre "Mother Theresa", Tirana, Albania;*

⁴*Medical University, Tirana, Albania;*

*E-mail: lorenc_konomi@yahoo.com

Received January, 2016; Accepted January, 2017; Published February, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/09159610>

ABSTRACT

Influenza (commonly called the flu) is a highly contagious illness that can occur in children or adults of any age. It occurs more often in the winter months because people spend more time in close contact with one another. The aim of the study was to highlight the predictive clinical signs and symptoms of influenza infection in hospitalized patients. This is a retrospective study of patients admitted during the influenza season 2015-2016 at the Infectious diseases hospital at University Hospital Centre "Mother Teresa", in Tirana, Albania. Data were collected using a case investigation form. A total of 183 patients with influenza like symptoms were admitted during the influenza season 79 (43.2%) of the patients were identified as being infected with influenza virus. Among individuals with influenza, the most frequently reported symptoms were weakness (91%), myalgia (91%), cough (90%), and nasal congestion (88%). Among those individuals without influenza, weakness (92%) and myalgia (92%) were also commonly reported. Individuals with influenza were more likely than those without influenza to have baseline cough (90% vs 78%), fever (65% vs 38%), and cough and fever together (61% vs 30%). The current results, show that cough and fever are better predictors of influenza infection than either symptom alone.

Key words: influenza, clinical signs and symptoms, severity

Vol. 7 (2): 297-304 (2017)

THE USE OF THE DRASTIC METHOD AND GIS IN ASSESSING THE VULNERABILITY OF THE GROUNDWATER, IN THE VELIPOJA-ZADRIMA AQUIFER, ALBANIA

Sirelda Bele^{1,2*}, Megli Bele²

¹*Polytechnic University of Tirana, Geological Faculty of Mining, Geoinformation Department, Tirana, Albania;*
²*Albanian Geological Survey, Tirana, Albania;*

Email: * sireldabele@hotmail.com; meglibele@gmail.com

Received January, 2016; Accepted January, 2017; Published February, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/88892002>

ABSTRACT

The Albanian population doubled during the last two decades and most of it uses the groundwaters of these aquifers. Aquifers in lowland areas are vulnerable to pollution. This article assesses the vulnerability of groundwater Velipoja-Zadrimè aquifer. This aquifer has a surface of 237 km² and an average height of 10 m above sea level. Groundwater resources are connected with alluvial deposits formed by Drini and Buna rivers. The vulnerability Map is an important tool for the management of the territory. It guides the selection of areas for development projects, in order to avoid negative consequences on the quality of groundwater. Geographic Information Systems are very valuable programs for processing. The DRASTIC method has been used to map the natural aquifer vulnerability of the Velipoja-Zadrima study area. This method, applied to assess the vulnerability of the aquifer, was developed by the "Environmental Protection Agency (US EPA)" and "The National Association of Water Wells (NWWA)". It is a technique to assess the potential contamination of groundwater and is based on seven (7) parameters: Depth (D), Recharge (R), Aquifer media (A), Soil media (S), Topography (T), Impact of vadose zone (I), and Conductivity of the aquifer (C). The DRASTIC index is determined by the sum of the products of the Weight and site ratings of all the parameters. High values of vulnerability cover large areas of the aquifer. The results provide important information for local authorities in the management of resources and territory.

Key words: Map, groundwater, management.

Vol. 7 (2): 305-310 (2017)

INFLUENCES OF PHYSICAL AND CHEMICAL MUTAGENS IN THE HARICOT BEAN (*PHASEOLUS VULGARIS*)

Malvina Kodhelaj^{1*}, Arjana Ylli²^{1*}Faculty of Natural Sciences, University of Tirana, Albania;²Department of Biotechnology, University of Tirana, Albania;*Email: malvinakarcini@yahoo.com;

Received January, 2016; Accepted January, 2017; Published February, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/29544195>

ABSTRACT

The haricot bean in our country is considered as one of the main leguminous plants. It (*Phaseolus vulgaris*) is a highly genetically variable species and very important for agricultural produce. The climatic changes of recent years have caused a considerable decrease in its production. The evidence of haricot decrease has resulted in conducting studies that aim to reduce the rate loss. One of the main identified issues is the abortion of the haricot bean flower, that is, pods; inability to link because of high temperatures and seasonal droughts. Induced mutagenic techniques have been used in the haricot bean seeds to shorten the blooming period in order to reduce the abortion of haricot bean flower in such periods. The main purpose of this study is to show the influence of physical and chemical mutagens on the haricot bean *Phaseolus vulgaris* a cultivar registered in the National Genetics Bank. Induction and evaluation of mutations in the haricot bean provide data on the way physical mutagens act on leaves, flowers and beans. Seeds of haricot beans are treated with physical mutagens, on respective doses of 50 Gy, 100Gy and 150 Gy compared to control. Also with chemical mutagens (EMS;dES) in three doses each compared to control. During this time, chlorophyllian pigments have been analyzed and various mutations have been observed under the influence of mutagens (Kraja.A, Vero.I, Elezi.F 2000). Leaves have been measured with Chlorophyll Meter to see the changes of chlorophyllian pigments and to compare them with control later on. The Chlorophyll Meter used is CCM-200. Changes have been noted in the amount of Chlorophyllian pigments related to the acceleration of flowering, where the first doses of dES has given more and fast flowers compared to the control (ACADEMIC PRESS, 1976). Also, there have been changes in the maturation period for two radiation doses (100 Gy and 150 Gy).

Key words: Chemical mutagen; Chlorophyllian pigments, Gamma irradiation, *Phaseolus vulgaris*, Mutation.

Vol. 7 (2): 311-320 (2017)

ESTIMATING POTENTIAL EROSION IN PRESPA LAKE BASIN

Fiorentina Jorgji¹, Zamir Libohova², Lirika Kupe³

¹Wold Bank, project Tirana, Albania;

²U.S. Department of Agriculture Natural Resources Conservation Service, 100 Centennial Mall North, Lincoln, NE
68508, United States;

³Agricultural University of Tirana, Albania;

*Email: jorgjif@yahoo.com

Received January, 2016; Accepted January, 2017; Published February, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/44925022>

ABSTRACT

Prespa Basin is part of a complex Prespa-Ohri-River Drini located on the southwest of Balkan Peninsula. The land use in the Prespa region is very diverse comprising of forest, pasture and intensive agricultural land. The Prespa basin region is characterized by complex geological and tectonic structures with predominantly calcareous rocks and to a lesser extend magmatic rocks. Many types of deposits such as alluvial, fluvioglacial, proluvial, organogenic-marsh and diluvial sediments occur in the valley, especially at the riverbeds with varying depths between 100 and 200m. The diverse land uses and pressure on the natural resources have increased the risk of degradation of the quality of the water and the biodiversity. Accelerated erosion rates pose a real threat to the existence of the lakes due to sedimentation and nutrient overload which could lead to increased biological oxygen demands (BOD) and hypoxia. The mean erosivity from the Climate stations was 3044 Mj mm ha⁻¹ hr⁻¹ and was significantly higher (p-value = 0.0008) compared to the WoldClim data with a value of 2591 Mj mm ha⁻¹ hr⁻¹. The reduction of sediment loss could potentially reduce the risk of Prespa Basin lakes to be polluted with chemicals and nutrients that would harm the ecological diversity of the lake and threaten other natural resources in the area.

Key words: erosion, WoldClim data, Prespa Basin lakes

Vol. 7 (2): 321-326 (2017)

MICROBIOLOGICAL SURVEILLANCE OF SURGERY WARDS IN THE REGIONAL HOSPITAL OF KORÇA, ALBANIA

Zhinzela Qyli

University "Fan S. Noli", Nursing Department, Korça, Albania;

Email: zhinzelaqyli@gmail.com

Received January, 2016; Accepted January, 2017; Published February, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/06035587>

ABSTRACT

Infection transmission risks are present in all hospital settings. However, certain hospital settings and populations have unique conditions that predispose patients to infection and merit special attention. The aim of this study was to determine the microbial levels and the etiological structure of the pathogens in the surgery ward of the Regional Hospital of Korça. A total number of 611 samples were collected in the environments of the surgery ward in the hospital. Settle plates method was used for air samples and swabs for surfaces, laundries, health care workers and systems of aspiration-intubation-oxygen. The study revealed that 106 (17.3%) samples were positive for microbial contamination. Samples with higher prevalence of positive isolates were the samples from healthcare workers 32 (43.2%). The microorganism most isolated was *Staphylococcus aureus*. It was present in 81 (76.4%) of positive samples. Microbiological surveillance of operating rooms and intensive care units play an important role in reducing bacterial contamination. The microbiological quality of air and surfaces is considered a mirror image of the hygienic conditions of hospitals environment.

Key words: surgery, operating room, contamination.

Vol. 7 (2): 327-330 (2017)

POTENTIAL OF TOURISM DEVELOPMENT TO PRESPA NATIONAL PARK

Fiorentina Jorgji^{1*}, Lirika Kupe²

^{1*}World Bank, project, Tirana, Albania;

²Agricultural University of Tirana Department of Plant Productions, Tirana, Albania;

*Email: jorgjif@yahoo.com

Received January, 2016; Accepted January, 2017; Published February, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/27927325>

ABSTRACT

Research has shown that the Prespa Lakes basin's greatest tourism strengths lie in its nature and heritage and that it has a developing ecotourism product. Facilities to foster nature-based and heritage-based tourism exist but the area is suffering from a lack of profile and declining market interest, and the very important domestic market in each country is increasingly holidaying elsewhere. There have been many tourism-related support initiatives in the area in the past, but their sustainability is mostly questionable. There is a need for projects to be more strongly embedded in local institutions which take responsibility for continuing them. The accommodation base in Albania is weak, with some developments in community-based tourism. Solid waste issues undermine tourism potential in Albania especially. National Parks are the area's strongest tourism asset at present and sustainable tourism capacity is strongest within some of these organizations. Seasonality is a major challenge not only in Albania but in all three countries and products and events have not been developed to address this. There is an expanding tourist information Centre (TIC) network that can be built upon. There is no real trans-boundary tourism on offer at present and there are very few private sector tour operations in the area, although some small activity tour operators are developing actually.

Key words: Tourism, Prespa Park, water quality, waste water.

EFFECTS OF DIFFERENT GROWING MEDIA AND SOWING DEPTHS ON SEED GERMINATION OF CAPER (*CAPPARIS OVATA* DESF.)

Zafer ÖLMEZ^{1*}, Serap ALPAY ÖLMEZ²

^{1*}Artvin Çoruh University, Faculty of Forestry, 08000, Artvin, Turkey;

²Artvin Çoruh University, 08000, Artvin, Turkey;

Email:* zaferolmez@yahoo.com; salpayates@artvin.edu.tr;

Received January, 2016; Accepted January, 2017; Published February, 2017;

DOI license: <http://u-o-i.org/1.01/ijeess/13735606>

ABSTRACT

This study was carried out to determine the effects of different sowing depths and growing media on germination percentage and germination rate of caper (*Capparis ovata* Desf.) seeds. Treatments applied to the seeds were 3 different sowing depths (0.5 cm, 1 cm and 1.5 cm) and 4 different growing media (forest soil+sand+manure (2:1:1); peat+manure (2:1); peat+perlite+manure (2:1:1) and peat+forest soil+manure (1:1:1)). The cold stratification treatment (at 4±1°) for 50 days was applied on the seeds to overcome seed dormancy. The seeds were sown in pot-trays at 24±1°C in the controlled greenhouse conditions. The statistical approach was a randomized complete block design with three replications and 60 seeds were used for each replication. Germinated seeds were observed periodically during 70 days to determine germination percentages and germination rates. The highest germination percentage (51.1%) was obtained from the growing medium of peat+perlite+manure (2:1:1) and sown in 1.0 cm-depth, the best germination rate (36 days) was determined from the same growing medium but sown in 1.5 cm-depth. On the other hand, the lowest germination percentage (2.8%) was determined from the seeds which were sown in the forest soil+sand+manure (2:1:1), in 0.5 cm depth.

Keywords: *Capparis ovata*, germination, seedling, growing media, sowing depth

Vol. 7 (2): 337-342 (2017)

THE MAIN FERMENTATION OF BEER WITH OXYGEN CONCENTRATION OF 8 AND 10 mg/l

Arsim Elshani^{1*}, Kastriot Pehlivani², Nexhdet Shala³, Xheme Lajqi⁴

^{1, 2}University of "Haxhi Zeka", Faculty of Agribusiness, Peja, Kosovo;

³College of International Management "Globus", Prishtina, Kosovo;

⁴j.s.c. "Birra Peja", Production Engineering Department, Peja, Kosovo;

*Email: arsim.elshani@unhz.eu; earsim@hotmail.com;

Received February, 2017; Accepted February, 2017; Published March, 2017;

DOI license: <http://u-o-i.org/1.01/ijeess/38560754>

ABSTRACT

Oxygen represents to us, both a friend and foe. As it is much needed especially during the fermentation process, should also be completely eliminated even his contact with the beer during transfer from one tank to another of the finished beer and during packaging in bottles, cans or barrels. It is very important to understand when he should, and vice versa. And where aeration or oxygenation process is necessary as for example during fermentation should be a wine aeration or oxygenation is allowed within certain criteria. The taste of beer stability remains a key point throughout factories producing beer. Hundreds ingredient, form a complex matrix of beer and of course chemical reactions lead to changes in the composition of the beer as well as the characteristics associated with taste and smell. Among the many ways of decomposition, in particular the quality of the beer is harmful, the volatility of iso - alpha - acids and derivatives that are used as key agents in beer distressful.

Keywords: oxygen, beer, extracts, fermentation, long life.

Vol. 7 (2): 343-346 (2017)

DIFFERENT YEAST CONCENTRATION IN BEER FERMENTATION WITH POSSIBILITY OF PRODUCTION OF HIGHER ALCOHOLS

Arsim Elshani¹, Kastriot Pehlivani², Xheme Lajqi³, Ibrahim Hoxha⁴

^{1,4}University of "Haxhi Zeka", Faculty of Agribusiness, Peja, Kosovo;

²College of International Management "Globus", Prishtina, Kosovo;

³Production department, J.S.C. "Birra Peja", Peje, Kosovo;

Email: arsim.elshani@unhz.eu

Received February, 2017; Accepted February, 2017; Published March, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/63353005>

ABSTRACT

The study has been done with six different concentration of yeast. We can say that the yeast concentration has had the direct impact in the time of main fermentation where with rising the concentration was shorten the time i.e. is developed the faster process of fermentation. The attenuation degree has been risen with the rising of yeast concentration and the samples 4,5 and 6 have the higher degree of fermentation than samples 1,2 and 3 where the yeast concentration is smaller. Chemical analyses of final beer show that the highest degree of fermentation is reached at sample 5, where the apparent degree of fermentation is 84.06%. As for higher alcohols they differ in independent way from each other and while at propanol and isobutanol we have the light rising of values with the rise of yeast concentration, at isoamylalcohol occurs the opposite thing and have the small drop of values.

Key words: beer, fermentation, extract, yeast, concentration, cells, biomass, higher alcohols

Vol. 7 (2): 347-352 (2017)

IMPACT OF LOCATION AND THE MAIZE HYBRIDS IN YIELD, PROTEIN AND FAT CONTENT

Ibrahim Hoxha^{1*}, Arsim Elshani¹, Nexhdet Shala², Kastriot Pehlivani³

^{1,2} University of "Haxhi Zeka", Faculty of Agribusiness, Peja, Kosova;

³ College of International Management "Globus", Prishtina, Kosova;

Email: arsim.elshani@unhz.eu;

Received February, 2017; Accepted February, 2017; Published March, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/55355497>

ABSTRACT

Agro-ecological conditions in a narrow area or elsewhere are different, but their effects are manifested in the level of productivity as the goal of cultivation of maize. Different maize hybrids were investigated in two different locations: Kosovo Agricultural Institute Peja - Plane of Dukagjin and Pestova - Plane of Kosovo, the property company of "Pestova". In the work are presented the results of research by factors effects of , locations and hybrids, about the level of productivity realized, the content of protein and fat in the 13 hybrids of maize, originating from: Austria (Pioneer), Croatia (BC), Vojvodina (NS), Hungary (Sedimex) and Germany (1106 X hybrid NW). The research included hybrids: BC 288, BC 354, BC 394, BC 408, BC 418, BC 5982, JUMBO 48, KITTY, LUCE, NIGRA, MERIDIAN, GARABURE, X1106 NW, and hybrids NS 444 and NS 640, as standard for comparison. Results of experimental research for the average yields of maize, compared with average yields at the Kosovo level, highlight not in use, in mass sufficient genetic potential of hybrid corn production. Therefore, in addition to modern agro technical should be given the maximum care the choices of hybrids for cultivation, in order to exploit the productive potential of hybrids, in the realization of higher yields. The experimental results was with significant differences in the level DMVPN = 0:05 and 0:01, to explore the characteristics of the maize hybrids compared with hybrids, NS 444 and NS 640, comparative standardization in two different locations.

Key words: hybrid corn yield, protein, fat.

Vol. 7 (2): 353-370 (2017)

PLANT COMMUNITIES OF THE ENVIRONMENTS CONTACT SITES AS INDICATORS OF THE VEGETATION GENESIS: SOME AREAS OF LAKE BAIKAL BASIN AS EXAMPLES

Alexander Sizykh^{1*}, Alexey Shekhovtsov²

¹*Siberian Institute of Plant Physiology and Biochemistry, Russian Academy of Sciences, 664033 Irkutsk, Lermontova str., 132, Box 317, Russia;*

²*Institute of Geography, Russian Academy of Sciences, 664033 Irkutsk, Ulanbatorskaya str., 1, Irkutsk, Russia;*

*Email: alexander.sizykh@gmail.com

Received February, 2017; Accepted February, 2017; Published March, 2017;

UOI license: <http://u-o-i.org/1.01/ijees/86461134>

ABSTRACT

Usage of methods for determination of long-time trends of the dynamics of vegetation genesis on the background of climate changes becomes more important at modern stage of the assessment of natural systems development. Solution of such a task results inevitably in necessity to correct the understanding of existing processes occurring in the vegetation cover. It allows establishing a direction of their development in system of natural factors of any territory. The aim of this study is to reveal peculiarities of spatial and temporal organization of phytocenoses-ecotones between high belts, zonal forest-steppe and zonal steppe, as well as one of phytocenoses reflecting paragenese as indicators of structure-dynamical organization of vegetation genesis for different areas of Lake Baikal region.

Key words: Vegetation, plant communities (ecotones, paragenese), indicators of vegetation genesis, climate dynamics, Lake Baikal region

Vol. 7 (2): 371-386 (2017)

PUBLIC OPINION ABOUT EFFECTS OF ENERGY INVESTMENTS IN ARTVIN, TURKEY

Ufuk Demirci¹, Burak Çavdar¹, Saim Yıldırım^{1*}^{1*}Artvin Çoruh University, Faculty of Forestry, 08000, Artvin, Turkey;*Email: saim@artvin.edu.tr;

Received February, 2017; Accepted February, 2017; Published March, 2017;

DOI license: <http://u-o-i.org/1.01/ijeess/78434817>

ABSTRACT

The energy which has been one of the basic needs of mankind since the early ages. Demand for energy is continuously increasing in parallel with the developing technology and increasing population. Energy demand's being that high especially in the last two centuries increased the demand for fossil fuels. However, these fuels we had excessively used without considering their harm as a non-consumable source to the environment and human health. So, the interest in renewable energy resources such as hydraulic, wind, geothermal, solar, biomass, wave, hydrogen has increased. The industrialization process of Turkey, which is a developing country, continues and the energy demand increases with every passing day. 35.36% of this increasing energy need is obtained from hydroelectric power plants (HEPPs), 29.01% from natural gas, 20.63% from coal and 15% from other energy resources (wind, geothermal, liquid fuels, solar energy, renewable waste). In Turkey, as being one of these energy resources, hydroelectric power plants are established in many valleys and every day projects are developed to add new ones to these. The most important one of the rivers on which HEPPs were and are being intensively built in our country is the Çoruh River. Many HEPP investments have been made in the Çoruh River since 1998. In this study, it has been aimed to determine the opinions of people on the socio-cultural, economic, ecological and environmental effects of dam-type and run-of-the-river HEPPs which were built and are being built in Artvin province in which a big part of the Çoruh River is located. For this purpose, a survey has been conducted by 142 people living in Artvin. Based on the results of the survey, participants stated that HEPPs have many negative effects on ecological characteristics such as climate, forest structure, agricultural lands, flora and fauna; on environmental characteristics such as erosion, pollution and visual quality and social characteristics such as migration and cultural heritage. On the other hand, HEPPs positively affects economic characteristics such as employment, tourism and fishing.

Key words: Çoruh River, dam-type HEPP, run-of-the-river HEPP, renewable energy resources.

Vol. 7 (2): 387-394 (2017)

HEALTH QUALITY LIFE OF PATIENTS POST CARDIAC INTERVENTION IN SHKODRA CITY

Zamira Shabani^{1*}, Arlinda Ramaj²

^{1*}*Faculty of Science, University of Shkodra, Albania;*

²*Faculty of Public Health, University of Medicine, Albania;*

Email: shabanizamira@yahoo.com; ramajarlinda@yahoo.com;

Received February, 2017; Accepted February, 2017; Published March, 2017;

UOI license: <http://u-o-i.org/1.01/ijeess/17756363>

ABSTRACT

The post operative period of cardiac intervention is a difficult period for the patient, his family and the family doctors. The rehabilitation of the patient is different in different patients and depends from co-morbidity, age, socio-economic state, life style and well-being of the affected individual. On the other hand the patients in the majority of cases have problems with mobility, self care, pain, usual activities and anxiety. In this study are included all cases that have cardiac intervention. All these cases are interventions made in University Hospital Center of Tirana, in private hospitals in Tirana or abroad. In this study were included all age group and both gender, selecting participants on the basis of their baseline and follow-up EuroQoL-5D- 3L scores.. In this study we have try to measure the patient`s health state and their quality of life after cardiac intervention. In this study we would like to measure the post operative quality of life in the patients after the cardiac intervention. The key questions were as follows: whether patients consider them sensitive enough to detect change in their health after cardiovascular disease interventions. We choose sample random cases from patients undergoing coronary artery bypass graft (CABG), in different post operative period. Data were analyzed using SPSS.20.Program. The participants confirmed that they had derived substantial health benefits from their cardiac interventions. Participants felt that the benefit of intervention is evident but their health fluctuates from day to day and after 1 year their quality of life was improved.

Key words: activities, anxiety, health, cardiac, depression, discomfort, diseases, mobility, pain, quality-of-life, self-care.