BOOK OF ABSTRACTS

I. SESSION DESCRIPTION

ID: G1

General session

Hosts:

Abstract:
This is an open session for abstracts that do not fit in any of the other sessions.

Goals and objectives of the session:

Sharing the experiences

Planned output / Deliverables:

Abstract presentations

Related to ESP Working Group/National Network:
Other

II. SESSION PROGRAM

Date of session: G1a: Thursday, 9 June 2022 & G1b: Friday, 10 June 2022

Time of session: G1a: 11:30–13:00 & G1b: 10:00–12:30

Timetable speakers

Time	First name	Surname	Organization	Title of presentation
G1a				
11:30–11:45	David	Oladeji	Obafemi Awolowo University	Family Ecosystem as Predictor Oof Reproductive Wellbeing Among Adolescents in Nigeria

Time	First name	Surname	Organization	Title of presentation
11:45-12:00	Eduardo	Gomes	Centre for Geographical Studies, Institute of Geography and Spatial Planning, Universidade de Lisboa and Associated Laboratory TERRA	Assessing the spatial effects of future cropland changes at the regional scale: a problem-oriented approach
12:00-12:15	Lerato	Seleteng-Kose	Department of Biology, Faculty of Science and Technology, National University of Lesotho	Biosphere Reserves to Deliver Value for Nature and Livelihoods
G1b				
10:00-10:15	Tia	Hajjar	American University of Beirut	Treated Wastewater Reuse for Irrigation in Bekaa, Lebanon: Quality Assessment and Public Perception
10:15-10:30	Manob	Das	Department of Geography, University of Gour Banga, Malda, West Bengal, India,	Mapping and assessment wetland ecological risk: A case on a peri-urban wetland of lower Gangatic plain, Eastern India
10:30-10:45	Niruban Chakkaravarthy	Dhanasekaran	Research Assistant	Value the Nature -Solution to Protect the Ecosystem
10:45-11:00	Luis	Valença Pinto	Research Centre for Natural Resources, Environment and Society (CERNAS), Polytechnic Institute of Coimbra, Coimbra Agrarian Technical School, Coimbra, Portugal	Urban park winter use in Mediterranean climate during workdays. A case study in Coimbra, Portugal
11:00-11:15	Emmanuel Nii Attram	Taye	Animal Biology and Conservation Science, University of Ghana	Ecosystem services of an urban Ramsar site in Ghana- an undervalued resource

III. ABSTRACTS

Abstracts are ordered based on the session program. The first author is the presenting author unless indicated otherwise.

1. Type of submission: Abstract

G. General sessions: G1 - General session: This is an open session for abstracts that do not fit in any of the other sessions

FAMILY ECOSYSTEM AS PREDICTOR OF REPRODUCTIVE WELLBEING AMONG ADOLESCENTS IN NIGERIA

Presenting author: David Oladeji

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Research has shown that when the family environment of the child is relatively stable and when parents are warm and attentive, the child is more likely to experience more satisfying romantic relationships in adolescence and beyond. A romantic relationship is a social constructed concept that is being defined distinctively in history and observed as a central aspect in the life of adolescents and an important characteristic of the socio-affective development during adolescence (Furman et al., 2002). The study established the influence of family environment as predictors of romantic relationship among the Adolescents. Two hundred (200) Adolescents were selected from five secondary schools in Ibadan Metropolis, Nigeria constituted the sample for the study. Their ages ranged from 12years to17years with a mean age of 14.5years and standard deviation of 3.5. The two instruments used were author-constructed questionnaires with 0.64 and 0.69 reliability coefficient respectively. The data obtained were analyzed using multiple regression and correlation statistics. The results indicated that, a combination of the eight independent variables significantly predicted the dependent variable F= (1,270); R= .285, R2 = .781, Adj. R2= .017; P<.05). The results also showed that, significant relationship existed between the Social location (B = 0.052, T = 0.689), Family structure (B = 0.098 T = 1.390), Family communication (B = -0.127, T = -1.559), Culture (B = 0.163, T = 2.342), Polity (B = 0.027, T = 1.444), Peer group/influence (B = 0.004, T = 1.049), Geographical boundaries (B = 0.014, T = 1.208), Physical environment (B = -0.013, T = -0.184), and adolescents' romantic relationship. Based on the results of these findings, the study recommended that factors of family environment and adolescent romantic relationship should be used as a control to having a satisfying relationships in adolescence and beyond.

Keywords: Family ecosystem, Geographical boundaries, Adolescents, Physical environment, Family wellbeing

2. Type of submission: Abstract

G. General sessions: G1 - General session: This is an open session for abstracts that do not fit in any of the other sessions

Assessing the spatial effects of future cropland changes at the regional scale: a problem-oriented approach

Presenting author: Eduardo Gomes

Other author(s): Miguel Inacio, Marius Kalinauskas, Jorge Rocha, Paulo Pereira

Affiliation: Centro de Estudos Geográficos (CEG), Laboratório Associado TERRA, Instituto de Geografia e Ordenamento do Território (IGOT), Universidade de Lisboa, Portugal

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Changing socio-economic, environment, climate, or institutional drivers are expected to affect the dynamics of croplands. Future land-use scenarios may help to anticipate potential effects on cropland supply. This study assesses the potential impacts of three multi-land-use scenarios in an agricultural region in Lithuania. The selected scenarios, projected for 2040, were: (i) A0 – business as usual; (ii) A1 – sustainable agriculture (with incentives to practice sustainable agriculture); and (iii) A2 – agricultural intensification (which assumes a large increase in the demand for agricultural products). The platform used for future land use modelling scenarios was the Dinamica EGO. This allowed establishing the relationships between land use and different driving forces for each scenario. The outcomes revealed that croplands will increase (i) 29.6% in the A0 scenario, 14.95% in the A1 scenario, and 29.63% in the A3 scenario. It was also demonstrated an (i) high cropland fragmentation in the A1 scenario; and (ii) low cropland fragmentation in the A0 and A2 scenarios. This methodological approach is transferable to other case studies and demonstrates the potential effects of future land use/ land cover changes in an agricultural region.

Keywords: croplands; scenarios; driving forces; decision-making process

3. Type of submission: Abstract

G. General sessions: G1 - General session: This is an open session for abstracts that do not fit in any of the other sessions

Ecosystem services in Africa: Current challenges and opportunities for ecological research

Presenting author: Rosemary Olive Mbone Enie

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The concept of ecosystem services was developed to illustrate the benefits that natural ecosystems generate for communities and to raise awareness for biodiversity and ecosystem conservation. This presentation seeks to identify major challenges and opportunities for African ecologists involved in empirical or modelling ecosystem service research. The primary challenge arises from the fact that the ecosystem service concept in Africa has not been generated in the context of managed systems. African Ecologists need to identify the effect of anthropogenic interventions in order to propose practices to benefit service-providing organisms and associated services. The secondary challenge arises from the need to evaluate relationships between indicators of ecosystem services that are collected in African ecological studies while accounting for uncertainties of ecological processes that underlie these services. This paper suggest, basing the assessment of ecosystem services on the utilization of sets of indicators that cover aspects of service-providing units, ecosystem management and landscape modification. The tertiary challenge arises from the limited understanding of the nature of relationships between services and a lack of a general statistical framework to address these links. To manage ecosystem service provisioning, African ecologists need to establish whether services respond to a shared driver or if services are directly linked to each other. In conclusion, studies relating biodiversity to ecosystem services often focus on services at small spatial/ short temporal scales, but research on the protection of services is often directed toward services providing benefits at large spatial scales. African Ecological research needs to address a range of spatial and temporal scales to provide a multifaceted understanding of how nature promotes human well-being. Addressing these challenges in the future offers a unique opportunity for ecologists in Africa to act as promoters for the understanding about how to conserve benefits gained from nature.

Keywords: ecosystem services, service providing units, biodiversity conservation, multiple services, anthropological interventions

4. Type of submission: Abstract

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Mapping and assessment wetland ecological risk: A case on a peri-urban wetland of lower Gangatic plain, Eastern India

Presenting author: Manob Das

Other author(s): Paulo Perreira

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Wetland ecosystems (WE) are considered the most valuable natural resources and highly productive ecosystems. However, 50% of the world's wetland disappeared due to urbanization and human disturbance in the last few years. This study aims to examine the wetland ecological risk (WER) modeling of a peri-urban wetland (Chatra wetland) in English Bazar Urban Agglomeration (EBUA) located in Eastern India using subjective (knowledge-based raster mapping or KBRM model) and objective (pressure-state-response or PSR model) approaches. A Multi-co- linearity test was performed to find out the association among the parameters. Spatial agglomeration and significance of WER was assessed using spatial autocorrelation analysis. The Friedman Wilcoxon rank test was performed to determine the significant difference between the models. The receiver operating characteristics (ROC) was used to validate the models. From both the models, it was found that eastern and southern parts of the wetland were under high to very high-risk areas compared to central and western parts of the wetland. About 70% of the total wetland was under high to very high-risk areas. The cluster maps showed that eastern and southern parts of the wetland were high-high agglomerated of WER, and the north-west and central parts of the wetland were characterized by low-low agglomerated WER. Thus, the proposed models are capable of implementing spatial management of WE and ecological sustainability.

Keywords: Ecological risk; Wetland ecosystems; ecosystem services; urban expansion; ecological sustainability.

5. Type of submission: Abstract

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Value the Nature –Solution to Protect the Ecosystem

Presenting author: Niruban Chakkaravarthy Dhanasekaran

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Finding the solution for environmental conflicts is a big deal for the current scenario. In the present world, we have been facing a lot of crisis due to the improper management of natural resources. What is the solution and how we can find the answers for this unanswered conflict? Every day, we are depending on nature. Even, if you are an individual, businessman, industry, government, or any kind of stakeholder who mainly depends upon nature are directly in the receiving end. Why we destroy natural resources very easily because they are free of cost and no one really cares about it. How we overcome this mentality, what is the solution for this? Economic developments create challenges for land users and policymakers in balancing both natural resource utilization and protection of biodiversity and ecosystem services (BES). If we can come up with a value for services of ecosystems then the stakeholders will able to know the real value and importance of any ecosystem. Several ecosystems such as forest and coastal are mainly helping the livelihood of many human communities Even in past decades most of the ecosystems were devastated without even knowing the immense economic value provided by them. For example, a major ecosystem that has of immense importance with mangroves. Most importantly, ignorance of the economic benefits of the conservation of mangroves is the main reason for ecosystem degradation and destruction. In previous times, the mangrove ecosystem is called 'economically unproductive areas'. So, the policymakers and government decided to remove these ecosystems and consider the land for other development activities. Hence, the initiatives on the economic valuation of mangroves are a key instrument for conservation and to

select suitable decisions for mangrove ecosystem management and governance. Mangrove areas are one of the most productive ecosystems on this planet. So, this paper mainly deals with the importance of ecosystem valuation and how this initiative protects the ecosystem and its key components. Besides, I have discussed the findings of the ecosystem valuation of Karwar mangroves, in Karnataka, India.

Keywords: Natural resources, bio-diversity, ecosystem services, mangrove

6. Type of submission: Abstract

G. General sessions: G1 - General session: This is an open session for abstracts that do not fit in any of the other sessions

Treated Wastewater Reuse for Irrigation in Bekaa, Lebanon: Quality Assessment and Public Perception

Presenting author: Tia Hajjar

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In Lebanon, agriculture consumes 61% of the freshwater resources [2]. In this sector, an estimated water supply-demand gap of 25% is predicted to further increase [4]. Consequently, integrated water resource management can sustainably manage our water resources for agriculture [3]. In particular, treated wastewater reuse (TWWR) is among the alternative water sources for irrigation to increase water availability and preserve freshwater resources. Despite the negligible and challenging water reuse situation in Lebanon, treated wastewater is a sustainable water management option because of its environmental, health, and economic benefits [3,5]. Nonetheless, failing to ensure a safe-effluent quality leads to environmental and health risks [7]. The Bekaa region is the primary agricultural area in the country [2]. The Bekaa also has several wastewater treatment plants (WWTPs) [6]. However, insufficient studies are available about their water reuse potential in irrigation in terms of the effluent's safety. Furthermore, successful reuse projects significantly depend on farmers and public acceptance [1]. Unfortunately, the acceptance level is overlooked in Lebanon [7,8].

Therefore, this study aims to determine the physical, chemical, and microbiological quality of TWW from Ablah and Zahle WWTPs in the Bekaa for reuse in irrigation and evaluate their environmental and health risks. It will further investigate the willingness of farmers in Zahle and Ablah and consumers from the Lebanese communities toward safe TWWR. Lastly, it will compare the actual risks of irrigating with the TWW of the studied WWTPs with the perceived risks of farmers and consumers regarding safe TWWR. The quality of effluent grab samples was analyzed and will be compared with international guidelines. Two surveys were conducted targeting the Lebanese population, 18 years and above, through social media and randomly selected accessible farmers who can benefit from Zahle and Ablah WWTPs through face-to-face and telephone interviews. Data collected will then undergo statistical analysis.".

Keywords: Treated Wastewater reuse, agriculture, quality, perception, willingness to use

7. Type of submission: Abstract

G. General sessions: G1 - General session: This is an open session for abstracts that do not fit in any of the other sessions

Biosphere Reserves to Deliver Value for Nature and Livelihoods

Presenting author: Lerato Seleteng-Kose

Other author(s): Lisa Kopsieker, Bettina Hedden-Dunkhorst

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The COVID-19 pandemic, has reinforced the critical importance of intact and biodiverse ecosystems for human health and climate change adaptation and mitigation. To date, meeting human needs while conserving and restoring biodiversity remains a challenge, with over-consumption and unsustainable production patterns accelerating climate change and biodiversity loss. However, there are conservation approaches that strive for a harmonious interaction between humans and nature. UNESCO Biosphere Reserves are learning places for sustainable development, testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention

and management of biodiversity. They combine three functions: the conservation of biodiversity, economic development and logistic support, strengthening development through research, monitoring, education and training.

To capture this potential, several countries in Southern Africa have put substantial efforts into the establishment and management of UNESCO biosphere reserves. This contribution aims to showcase the potential that biosphere reserves offer, specifically with regard to the logistical support function. It demonstrates that biosphere reserves are optimal sites to carry out scientific research and advance the knowledge base of human-natural systems. For example, in Lesotho, the management and conservation of wetlands, remains a challenge. Covid-19 has exacerbated the situation, increasing the pressure on biological resources, particularly harvestable plant resources, which in turn affects the successful conservation of these important ecosystems. A current study provides insights into important plant genetic resources occurring in montane palustrine wetlands of Lesotho, their major threats, and conservation efforts.

Overall, biosphere reserves and their unique approach to conservation and sustainable development can be scaled up across the African continent to secure the delivery of critical ecosystem services and deliver value for nature and livelihoods. With research and capacity development playing a crucial role in this regard.

Keywords: UNESCO Biosphere Reserves; sustainable development; conservation; research and capacity development

8. Type of submission: Abstract

G. General sessions: G1 – General session: This is an open session for abstracts that do not fit in any of the other sessions

Urban park winter use in Mediterranean climate during workdays. A case study in Coimbra, Portugal

Presenting author: Luis Valença Pinto

Other author(s): Paulo Pereira

Affiliation: Research Centre for Natural Resources, Environment and Society (CERNAS), Polytechnic Institute of Coimbra, Coimbra Agrarian Technical School, Coimbra, Portugal

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The substantial urban growth foreseen for the next decades across the globe, alongside the positive and relevant impacts of urban green spaces (UGS) on human health, highlights the importance of these spaces in the future of cities worldwide. Many studies have been focusing on the preferences for UGS use, considering ecosystem services enjoyed by city dwellers. However, most studies have focused primarily on summer use. This particular year period usually aggregates the higher number of users during the year. However, it is fundamental to assess differences in seasonal use, not only in the number of users but also in the types of activities undertaken. In this study, we focus on UGS usage during workdays in a Mediterranean climate city, for which we collected both observational and survey data. We assess potential similarities and differences with summer data from a previous study. Results show similar usage activity, with most users engaging in walking, followed by jogging or running, both in winter and summer. Visitation frequency is similar in winter and summer, being done mainly every week. The importance attributed to performed activities is also high in both seasons. Transport mode preferences are also very similar between seasons, with the car prevailing in both seasons (55.0% in summer, 51.1% in winter), followed by access by foot (35.3% in both seasons), and public transport (8.5% in summer, 10.4% in winter). There is one difference between registered winter and summer users, with winter users being younger (kids and young adults) than those registered during the summer (young adults and adults). These results provide relevant insights into the UGS planning process.

9. Type of submission: Abstract

G. General sessions: G1 - General session: This is an open session for abstracts that do not fit in any of the other sessions

Ecosystem services of an urban Ramsar site in Ghana- an undervalued resource

Presenting author: Emmanuel Nii Attram Taye

Other author(s): Yaa Ntiamoa-Baidu

Affiliation: Animal Biology and Conservation Science, University of Ghana

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Ecosystems and the biodiversity they contain underpin all human life and activities. Ecological systems generate ecosystem functions and services, including vital life supporting services essential to human society. The Densu Delta Ramsar site is one of five coastal Ramsar sites in Ghana, located on the outskirts of the city of Accra. This study identifies and assigns value to the key ecosystem services of this urban biodiversity hotspot, using ethnographic methods. The key interest groups at the site are the local communities, fisherfolk, the Weija Water Works, the Salt Company and conservationists. Participants were sourced from within the Ramsar site and surrounding communities. Ecosystem services provided by the wetland include the provision of food (fish, molluscs, and grains) and other raw materials such as fuelwood that supports community livelihoods. The wetland is important also for flood and run-off control, shoreline stabilization and provides nesting, roosting and feeding habitats for internationally important populations of several waterbird species including Roseate tern, Black tern, Royal tern, Ringed plover, Curlew sandpiper & Little Stint. Industrial salt mining is carried out by a private company within the wetland which also provides significant employment. Despite the benefits and significant importance that people in surrounding communities assign to the ecosystem values of the wetland, the Densu Delta site has undergone severe encroachment and degradation from private developers, resulting in a drastic reduction in the core area of the wetland and its ability to provide benefits to people and biodiversity.

Keywords: Ecosystem services, valuation, biodiversity, livelihoods, wetlands degradation