BOOK OF ABSTRACT

I. SESSION DESCRIPTION

ID: T12

Title of session:

Ecosystem services and the prevention of disasters

Hosts:

	Title	Name	Organisation	E-mail
Host:	Ms.	PatríciaFaga Iglecias Lemos	University of São Paulo	patricia.iglecias@usp.br

Abstract:

As acknowledged by Sendai Framework for Disaster Risk Reduction, disasters are increasing in frequency and intensity and many are exacerbated by climate change. In Brazil, change of rainfalls related to climate change and deforestation may cause droughts in some areas and intensification of floods in other places. Brazilian coastline is also expected to be vulnerable to disasters related to sea level rise (La Rovere & Pereira, 2007). In order to prevent or minimize the impacts of natural disasters, the maintenance of natural infrastructure is essential (Verchick apud Farber, 2012). The session proposed herein aims to stress the relationship between the maintenance of natural infrastructure and correlated provision of ecosystem services, on the one side, and the implementation of Sendai Framework for Disaster Risk Reduction in Brazil, on the other side. Inspired by priorities 2 and 3 of such framework, this session will bring together researches and initiatives that propose new approaches towards the conservation of ecosystem services and the management of shared resources aiming to reduce disaster risks by building resilience of ecosystems and human settlements.

Goals and objectives of the session:

To enhance the relationship between the maintenance of natural infrastructure and correlated provision of ecosystem services, on the one side, and the implementation of Sendai Framework for Disaster Risk Reduction in Brazil, on the other side.

Planned output / Deliverables:

To provide policy-makers with a list of good practices that can be implemented at their level of government. To identify potential ideas that could receive technical and/or scientific support from UN Global Compact Cities Programme Brazil Regional Office at USP, in partnership with the event organizing institutions – Brazilian Platform on Biodiversity and Ecosystem Services (BPBES), Ecosystem Services Partnership (ESP), Brazilian Foundation for Sustainable Development (FBDS) and Biota/Fapesp Program and Brazilian Agricultural Research Corporation (Embrapa-Soil).

Related to ESP Working Group/National Network:

Thematic Working Groups- TWG 12 – ES & Disaster Risk reduction (DRR)

II. SESSION PROGRAM (T12)

Date of session: Wednesday, 24 October 2018
Time of session: 13:30-15:00

Timetable speakers

Time	First name	Surname	Organization	Title of presentation
13:30-13:40	Patrícia	Iglecias	University of São Paulo	Sustainable Development Goals and Disaster Prevention: contributions from the UN Global Compact Cities Programme Brazil Regional Office at USP
13:40-14:00	Renato Mayra	Lorza Bonfim	Fundação Florestal	Recovery and Protection of Climate and Biodiversity Services in Brazil's Southeast Atlantic Forest Corridor (Projeto Conexão Mata Atlântica)
14:00-14:10	Lia Helena	Demange	University of São Paulo	Environmental Norms, Public Policies and Disaster Prevention: the case study of São Luiz do Paraitinga – Brazil
14:10-14:20	Rodrìguez	Pava	Universidad Nacional de Colombia	Multidisciplinary approaches for the sustainable regeneration of the favelas

Time	First name	Surname	Organization	Title of presentation
14:20-14:30	Lucas Eduardo	Requião Silva	Federal University of Bahia	To serve or not to serve: relating ecosystem functions and services
14:30-14:40	Víctor Fernando	Colino-Rabanal López	University of Salamanca	Relationship between bird biodiversity and ecosystem services within an urban green infrastructure: the case of green spaces in the city of Salamanca (Spain)

III. ABSTRACTS

The abstracts appear in alphabetic order based on the last name of the first author. The first author is the presenting author unless indicated otherwise.

1. *Type of submission:* ***Abstract***

T. Thematic Working Group sessions: T12 Ecosystem services and the prevention of disasters

Environmental Norms, Public Policies and Disaster Prevention: the case study of São Luiz do Paraitinga – Brazil

First authors(s): Lia Helena Monteiro de Lima Demange
Affiliation, Country: University of São Paulo, Institute of Energy and Environment, Brazil
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Despite evolution of national and international legislation, and widespread access to environmental information, degradation of forest cover is still widespread in Brazil, including in vulnerable areas, such as river banks and slopes, which degradation increases the risk of natural disasters, such as floods, droughts and land sliding. This research seeks to identify and explain the cultural and perception factors that affect decision making regarding compliance with the Brazilian Forest Code, which determines land use restrictions for areas whose conservation is essential to preserve hydric resources, the soil, biodiversity, and the wellbeing of human population. Founded on legal, psychological, and perception theories regarding the drivers of noncompliance with environmental norms, data collection counted on jurisprudence research and qualitative interviews with land owners and government officials responsible for enforcing environmental law in São Luiz do Paraitinga. São Luiz do Paraitinga is a Brazilian municipality that has undergone a major flood, which was aggravated by the lack

of green cover along river banks and slopes in the river basin (BROLLO et al, 2010). Interviews carried out with land owners aimed to test whether farmers and managers are aware of the role of Brazilian Forest Code in the preservation of ecosystem services and prevention of natural disasters, and whether their experience with disasters and with enforcement of environmental law influence their will to comply with the law. The interviews also captured the perception held by land owners and government officials towards the law itself and each other's behavior, in order to understand how such perceptions influence decision making.

Keywords: permanently preserved areas; disaster prevention; Brazilian Forest Code; environmental perception; environmental law

2. *Type of submission:* ***Abstract***

T. Thematic Working Group sessions: T12 Multidisciplinary approaches for the sustainable regeneration of the favelas

Urban agriculture in Bogotá, cultural adaptation to ecosystems

First authors(s): Diego Ricardo Rodríguez Pava, Tomás León Sicard
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The urban agriculture practice has been proposed to reconsider the destructive relationship between society and nature. Contributions such as ecosystem connectivity, waste reduction, environmental education, healthy food, women's participation and community ties; have not been valued by the governing to achieve Sustainable Cities and Communities.

This research analyzed urban agriculture in Bogotá and its symbolic components, social organization and technologies, as a way of analyzing the culture-nature relation. Surveys and reports were made to 96 urban farmers, by stratified simple random sampling and 25 semi-structured interviews.

The results were analyzed with SAS and Atlas TI programs and a multiple correspondence analysis that differentiated between groups of social strata 1-2 and 3-4.

Urban farmers are mostly women (83% and 78% in strata 1-2 and 3-4 respectively) from rural regions (72% in strata 1-2 and 48% in 3-4) who arrived in Bogotá in voluntary or forced migration processes.

The main motivation focuses on healthy foods (87% in strata 1-2 and 96% in 3-4), a symbol of the relationship with the land of urban farmers parents and ancestors and their teachings about the countryside work and nature links.

Enjoy farming (89% and 87% in strata 1-2 and 3-4 respectively) combines rebuilding the social relationships broken by urban dynamics and close contact with nature, which entails responsibilities reflected in an environmental technological profile.

According to this, the farmers between strata 1-2 and 3-4 respectively, use organic fertilizer (82% and 70%), collect rainwater (89% and 78%), reuse gray water (76% and 70%), carry out botanic control of pests and diseases (68% and 61%), sow native seeds (55% and 57%) and most prefer to avoid pesticides (89% and 87%).

This research was result of master in environment and development thesis.

Keywords: Urban agriculture in Bogotá, cultural change, wastes reduction, urban farm women

3. *Type of submission:* ***Abstract***

G. General sessions: T12 How climate and land dynamics change cause rapid and sudden loss in biodiversity and impact human well-being

Relationship between bird biodiversity and ecosystem services within an urban green infrastructure: the case of green spaces in the city of Salamanca (Spain)

First authors(s): Victor J Colino Rabanal
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According to the European Commission, green infrastructure is defined as a strategically planned network of natural and semi-natural areas aimed at protecting biodiversity while providing a wide range of ecosystem services. In urban areas, the network of green spaces constitutes one of the main elements of the urban green infrastructure. Urban parks are home to a variety of species while also providing services such as air pollution control, temperature regulation or reduced peak runoff flows. They also provide important recreational and cultural

services. However, not all parks provide the same amount of ecosystem services, nor are they equally valid for biodiversity. This depends on the intrinsic characteristics of each park but also on its position within the park network and within the urban fabric. In this study we wanted to evaluate the relationship between bird diversity and ecosystem services within the network of urban parks in the city of Salamanca (Spain). The results show that the parks on the periphery, near the river, important for the global connectivity of the entire network and with mature trees, were home to a greater diversity of birds. These parks also excel in carbon storage and provide important recreational and cultural services. Downtown parks provide more services related to pollution control and temperature regulation but are home to less biodiversity. In addition, these parks are the ones that generate the greatest increase in the price of homes in the surrounding area. These results can be used for the future planning of urban green infrastructure in Latin America, making compatible the two main objectives of such infrastructure: protection of biodiversity and provision of ecosystem services.

Keywords: urban green infrastructure, urban parks, biodiversity, ecosystem services

4. *Type of submission:* ***Abstract***

G. General sessions: T12 How climate and land dynamics change cause rapid and sudden loss in biodiversity and impact human well-being

To serve or not to serve: relating ecosystem functions and services

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The objective of this work was to evaluate, through a literature review, how the relationship between ecosystem functions and services are connected, within an ecocentric framework. From an evaluation of the relationship between ecosystem services and functions, we proposed that: the ecosystem services concept, while searching for benefits to humans, might neglect important functions that occur in an ecosystem, that are not of human interest, leading to an underestimation of the roles played by the the ecosystem organisms. Moreover, the benefits to humans idea ignores the fact that ecosystem functions can have negative relationships with ecosystem services, leading to a possible deterioration of the interactions that take place between species, affecting the functioning of ecosystems and the provision of ecosystem services. In these cases, should the ecosystem services concept underestimate ecosystem functions or ignore negative relationships between ecosystem functions and

services the consequences of these factors to environmental management may be prevented using biodiversity conservation as a sort of insurance against the unpredictable consequences of the ecosystem services approach. Whether what was proposed in the study is actually real or relevant to environmental management and conservation remains to be scientifically investigated

Keywords: Ecosystem services; ecosystem function; biodiversity; management