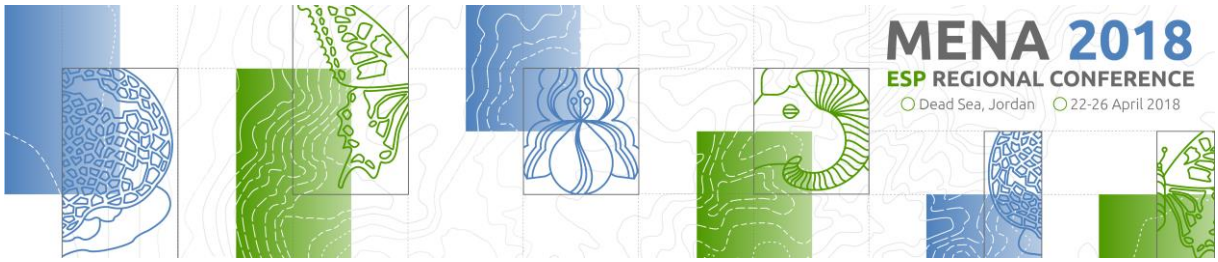


BOOK OF ABSTRACT

I. SESSION DESCRIPTION
II. SESSION PROGRAM
III. ABSTRACTS

I. SESSION DESCRIPTION

ID: T16

Title of session:

The effects of social and economic activities on the economic values of ecosystem services

Hosts:

	Title	Name	Organisation	E-mail
Host:	Dr.	Amani Al-Assaf	The University of Jordan	amani.alassaf@ju.edu.jo
Host:	Dr.	Hamed Daly	INRGREF	Hamed.daly1@gmail.com
Co-host:	Dr.	Mohammad Majdalawi	The University of Jordan	m.majdalawi@ju.edu.jo
Co-host:	Dr.	Sabine Schlüter	TH Köln – University of Applied Sciences".	sabine.schlueter@th-koeln.de

Abstract:

The ecosystem functioning has declined in recent years due to the combined influence of natural disasters and human activity, highlighting the need to establish adaptable practices of risk prevention avoiding unreasonable human activities and protecting ecosystems (Wang et al. 2014). Such practices will ensure that human activities do not damage necessary ecological processes and ensure continuity of the ESs flow upon which the welfare of future generations will depend (MEA 2005; Turner et al. 2010). The design of environmental management strategies or policies for future development often involves a weighing of the consequences of proposed environmental actions, so it is essential to consider impacts upon ecosystems as well as the social and economic systems to which they are linked. This can be best achieved when the decisions that the society makes are as well informed as possible (Potschin & Haines-Young 2006). The framework used in such management strategies represents a socio-

ecological system that requires information for analyzing this information drawn from the broad range of natural and social sciences (Carpenter et al. 2009).

For instance, Boström (2012) investigated the incorporation of the social dimension into environmental sustainability by involving community based forestry in sustainability projects, the aim of which was to reduce poverty and ensure that benefits (services) were derived from forest ecosystems in a sustainable manner. The socioeconomic factors of local people influenced the interventions that were made for natural resource management; the variation is based on locals' natural and socio-economic conditions (Cheung & Jim 2013). Thondhlana et al. (2012) concluded that different types of services would require varying sustainable management plans and emphasized the consideration of disparities in patterns of natural resource dependence among different locals' income groups (Negi et al. 2013).

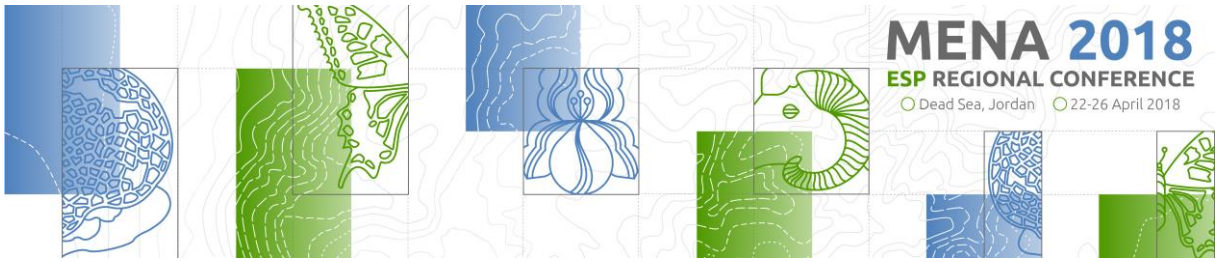
This session provides a (platform) for sharing research on the effects of socio-economic activities / management on the value of services provided by different ecosystems (i.e. terrestrial, forest, marine, desert ecosystems).

We welcome contributions to address (but not limited to) the following themes:

- Exploring the effects of human activities in producing and supplying ES for different ecosystems in MENA region.
- Understanding the social and ecological interactions of different ecosystems in the MENA region, which reflect the social importance of services gained by different services' users and through the lenses of the local communities.
- Understanding the use of different economic methods to evaluate the impact of ecosystem services.
- Understanding the role of social factors on the economic values of ES, and defines the social -economic drivers that affect values.
- Exchanging research of how the economic, financial and marketing knowledge facilitate the adoption of climate change issues and social transformation for ecosystem sustainability.
- Enhancing the role of economic valuation of ES in establishing management activities and adaptive strategies, where stockholders could develop and adopt management plans based on indigenous knowledge.

Goals and objectives of the session:

The objective of the session is to raise the importance of social-economic sciences in planning, sustaining and utilizing different ecosystems, specifically in the MENA region. This will be supported by brining together researchers from all over the region and the world for exchanging experiences and knowledge in the ecosystem services valuation. MENA region is in need for establishing of networks and research collaboration on this theme.



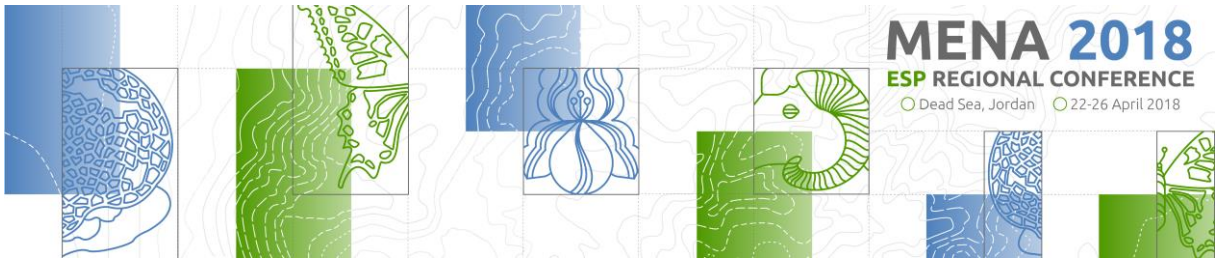
Planned output / Deliverables:

We plan producing three outputs from this session. First, we will consider synthesize the results and findings by publishing a joint publication, which will enhance the cooperation and harmonization among the presenters. Second, we consider the possibility to publish a special issue in a journal to be determined. Third, we offer establishing an initiative/network for social and economic researchers for ES assessment in the MENA region.

Voluntary contributions accepted: YES

Related to ESP WG or NN:

TWG 16- ES Financing Mechanisms (incl. PES)

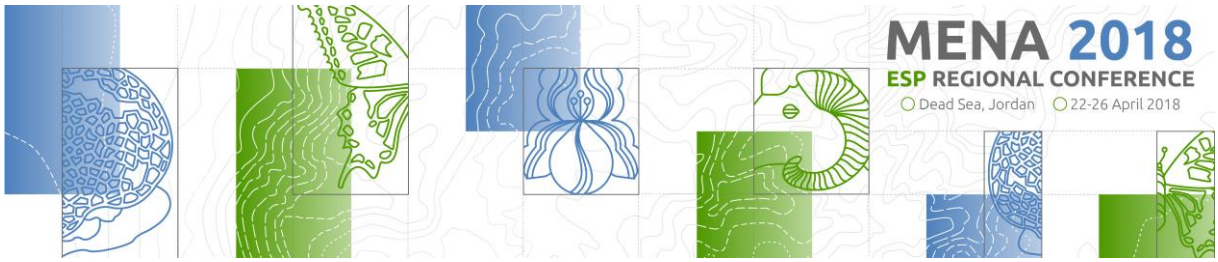


II. SESSION PROGRAM

Date of session: **Monday, 23 April 2018**
Time of session: **from 10:30 till 12:30**

Timetable speakers

Time	First name	Surname	Organization	Title of presentation
10:30	Amani	*Al-Assaf*	The University of Jordan	The value of Long-Term Socio-Ecological Research Platforms (LTSER) as venues for ecosystem service research?
10:45	Juliette	*AMIDI*	Development and Conservation (AFDC), Lebanon	Socio-economic assessment of old reforested sites in Lebanon
11:00	HU	*Yunfeng*	Institute of Geographic Sciences and Natural Resources Research, CAS, China	The trajectory of ecosystem restoration process in the Three-North-Regions of China from 2000 to 2015
11:15	Enas	*Sarahneh*	University of Jordan, Jordan	Economic valuation of the recreational services of the coral reefs in the Jordanian coast of the Gulf of Aqaba
11:30	Thomas	*Palo*	Click here to enter text.	Refugees and humanitarian green response
11:45	Hamed	*Daly-Hassen*	INRAT, Universityu of Carthage, Tunisia	Economic assessment of forest management options for producing multiple ecosystem services in the MENA region
12:00	Maria Gabriella	Trovato	American University of Beirut, Lebanon	Landscape and migration: a landscape risk model to assess the impact of Syrians' displacement in the agricultural Lebanese areas
12:15		General Discussion		



III. ABSTRACTS

1. Type of submission: ***Voluntary contribution***

T. Thematic Working Group sessions: T16 The effects of social and economic activities on the economic values of ecosystem services

The value of Long-Term Socio-Ecological Research Platforms (LTSER) as venues for ecosystem service research?

Author(s): Jan Dick

Presenting author: AmaniAl-Assaf

Other author(s): Amani Al-Assaf

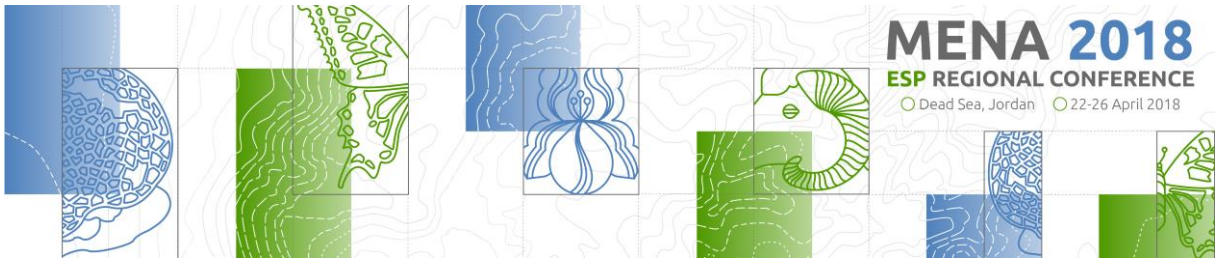
Affiliation: The University of Jordan, Jordan

Contact: amanialassaf@yahoo.com

Within an overarching goal of addressing global and regional sustainability challenges, Long-Term Socio-Ecological Research Platforms (LTSER) aims to conduct place-based research, to collect and synthesize both environmental and socio-economic data, and to involve a broad stakeholder pool to set the research agenda. We will present the results of a literature review of 25 self-selected LTSER platforms of the International Long-Term Ecological Research (ILTER) network focusing on the economic and social output of the platforms. The review concluded there is a wide range of platforms, which have produced research products, fulfilling the aims, and ambitions of the paradigm shift from ecological to socio-ecological research envisaged at the turn of the century.

We will further present the journey of one established LTSER platform (Cairngorms National Park LTSER platform, Scotland, UK) detailing the bridges and barriers encountered and the role of the ecosystem service framework to answer real-world practical problems. The potential for an LTSER platform in the Wadi Araba and Aqaba, Jordon will be considered within the framework of the ILTER community.

Keywords:Long-Term Socio-Ecological Research Platforms, network, socio-ecological research



2. Type of submission: ***Voluntary contribution***

T. Thematic Working Group sessions: T16 The effects of social and economic activities on the economic values of ecosystem services

Socio-economic assessment of old reforested sites in Lebanon

Author(s):Juliette AMIDI

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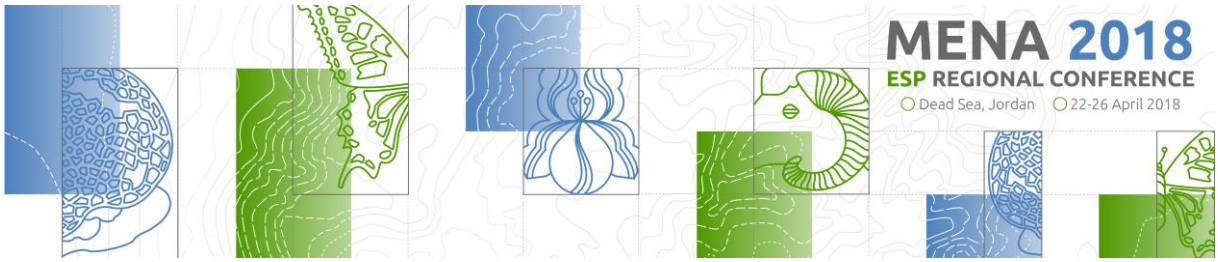
Economic valuation of ecosystems is the study of goods and services provided by these ecosystems to society. Since the 1960s, Lebanon has been subject to important reforestation activities which resulted in the establishment of several cedar, pine and other mixed forest stands. To assess the goods and services provided by these forests, thirteen reforested sites located in different regions in Lebanon were selected including: Falougha, Qornayel, Kfarhim, Jisr El Qadi, Barouk, Niha, Saghbine, Ain Zebdeh, Rachaya, Anjar, Lala, Baaloul and Qoussaya. The socio-economic assessment was done using questionnaires distributed to locals that have close interactions with the forests; it included a double bonded dichotomous contingent valuation question. In addition the direct valuation of pine products was calculated. Results of the socio-economic assessment revealed that pine forests present more direct goods and services while cedar forests present more cultural and regulation services. Moreover, results of the contingent valuation question showed that in most cases people with lower incomes are more willing to pay for the increase of the forest area and that willingness to pay was expressed for all types of forests. Involving the locals in further reforestation activities is important to insure the conservation of these sites.

Keywords:Reforestation, Socio-economic Assessment, Contingent Valuation, Willingness to Pay



3. Type of submission: ***Voluntary contribution***

T. Thematic Working Group sessions: T16 The effects of social and economic activities on the economic values of ecosystem services

The trajectory of ecosystem restoration process in the Three-North-Regions of China from 2000 to 2015

Author(s): Yunfeng Hu, Wei Cao

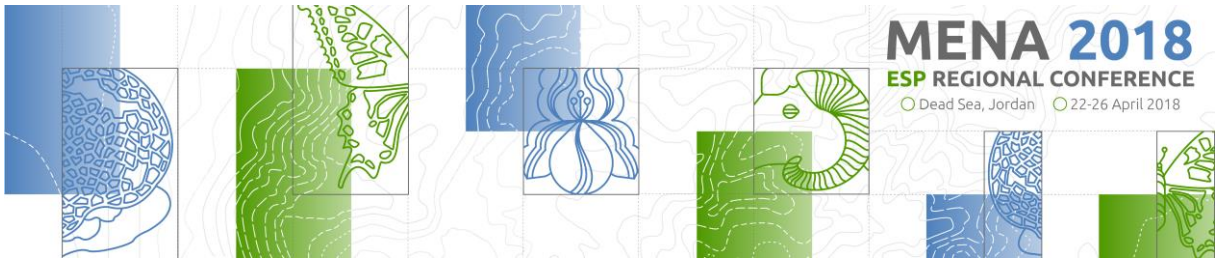
Other author(s): Daorina

Affiliation: Institute of Geographic Sciences and Natural Resources Research, CAS, China

Contact: huyf@lreis.ac.cn

In 1978, the Chinese government started to construct the "Three-North-Regions Shelter-Forest System" in the Northern China, North-Western China and North-Eastern China where the harm of sandstorms and soil erosion are serious. The great project set a precedent for China's forestry ecological restoration projects. For the status and changing process of ecosystem structure, quality and ecological service, what kind of impacts and functions did the large-scale afforestation project own? This is a universal concern of the people of the world. Based on satellite remote sensing interpretation, remote sensing inversion and model simulation, the authors analyzed the trajectory of ecosystem structure, ecological quality and key ecological services in these regions during 2000-2015. The driving mechanisms are then analyzed. The specific contents include: (1) According to the spatial statistics of the area of forest land, grassland, wetland, farmland and artificial surface in each 5 years in China from 2000 to 2015, the trend of various ecosystems are analyzed. (2) The trend of ecosystem quality was analyzed using the method of Tire-Sen method supported by the time series data including normalized vegetation index (NDVI), leaf area index (LAI) and terrestrial vegetation productivity (NPP). The changes in northeast China, the Loess Plateau and the northern Tianshan Mountains were analyzed in depth. (3) RUSLE and RWEQ models were applied to simulate water erosion modulus and wind erosion modulus year by year. Based on these two modules, the ecosystem services, i.e. soil conservation and sand fixation functions, were further computed. The inter-annual variation and spatial differentiation of the above four indicators were then summarized. (4) Based on the continuous observation data of more than 100 meteorological stations, the tendency of temperature and precipitation during 2000-2015 and the influence of climate change on regional vegetation were also analyzed. At the same time, using the artificial disturbance index, the effects of human activities on the natural ecosystem of Three-Northern-Regions were discussed in detail.

Keywords:Three-North-Regions of China, ecosystem structure, ecosystem quality, ecological service, change proces



4. Type of submission: ***Voluntary contribution***

T. Thematic Working Group sessions: T16 The effects of social and economic activities on the economic values of ecosystem services

Economic valuation of the recreational services of the coral reefs in the Jordanian coast of the Gulf of Aqaba

Author(s): Enas Sarahneh

Other author(s): Amani Al Assaf

Affiliation: University of Jordan, Jordan

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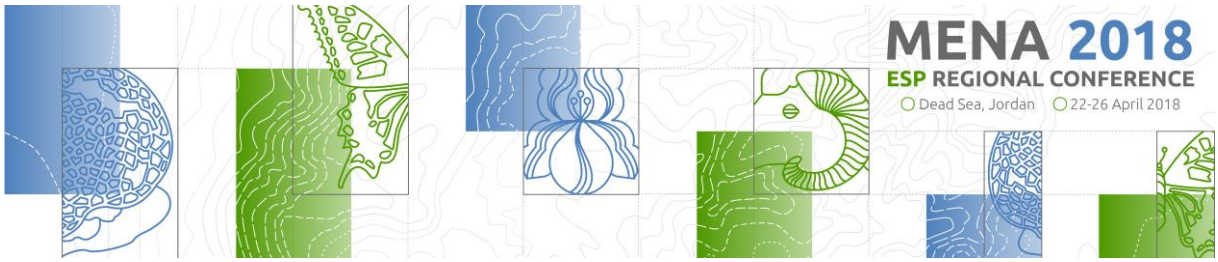
Although the Jordanian coastline is very short (27km), of which about 12 km is occupied by the industrial establishments, ports, resorts and hotels, it is well known worldwide as a tourist's paradise overflowing with wildlife and adventure due to its unique marine biodiversity. Rapid development of tourism, industry and construction sectors along the coastline of the Gulf of Aqaba is expected to induce more stress on coral reefs and to represent the major threat to this ecosystem in the future. Improving the management of this ecosystem is needed which requires economic justifications.

Very few studies have examined the coral reef ecosystem services in the Gulf of Aqaba. In this study, two non-market methods, the Zonal Travel Cost Method (ZTCM) and the Contingent Valuation Method (CVM), were used to estimate the recreational value of the coral reef ecosystems in the Jordanian coast of the Gulf of Aqaba. The maximum willingness to pay for conserving the unique marine life in Aqaba is estimated by using data based on questionnaires targeted users group; divers and snorkelers, and non users group.

The results of this study will be compared to the results of a similar study conducted in 2005 to identify the changes in environmental status due to the coastal development in the last decade as well as the changes in people's willingness to pay to conserve this ecosystem.

Keywords:Economic Valuation, Recreational Services, Coral Reef, Travel Cost Method, Contingent Valuation Method



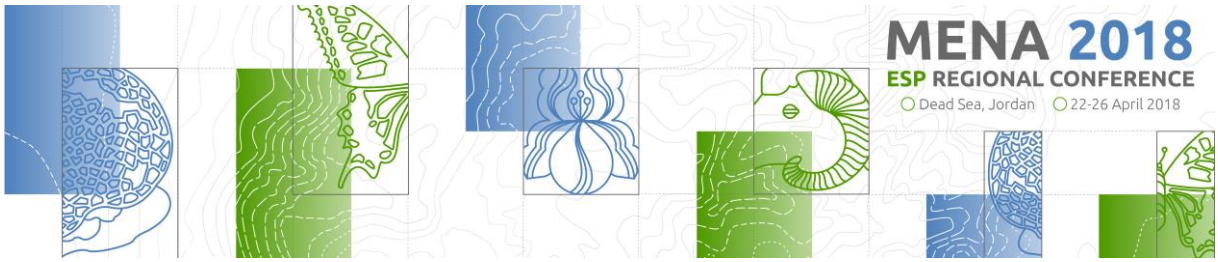
5. Type of submission: ***Voluntary contribution***

T. Thematic Working Group sessions:

Refugees and humanitarian green response

Authors: R. Thomas Palo, Christine Wamsler and Patrick Fox
Presenting author: R. Thomas Palo
Contact: *thomas.r.palo@slu.se*

Natural and technical disasters are increasing in frequency on a global scale. Forest fires, hydrological events, and storms shows dramatic increases during the latest decades. Technical disasters such as war, the Chernobyl and Fukushima nuclear accidents, are major driving forces for displacement of people that need protection and relief. All these events contribute to the effects on ecosystems that extend over large geographical areas and affects multiple ecosystems and large number of people. These trends need extra attention, both in terms of anticipated effects by climate change and effects by large and small scale disasters and their impact on human populations in relation to supporting ecosystems. The need for collective support to displaced populations from the world societies is ever increasing and requires more and more resources to mitigate accelerating crisis. Due to technological and natural reasons human forced migration that requires establishment of refugee camps, with hundreds of thousands people at sites that previously only hosted low human populations, will have profound environmental and social effects. With the premier goal by humanitarian aid to save lives, environmental considerations are not at the highest priority but it is mutually beneficial for humanitarians and environmentalists to work together in humanitarian response. Green response is a new concept with the ambition to incorporate environmental concern in humanitarian interventions. This paper builds on studies performed in the Azraq refugee camp in Jordan where measures were taken to improve the environment and to create more sustainable and resilient living conditions in the camp by sparing the natural environment. The observations are contrasted against the concept of green response, ecosystem services and their implementation in humanitarian work.



6. Type of submission: ***Voluntary contribution***

T. Thematic Working Group sessions: T16 The effects of social and economic activities on the economic values of ecosystem services

Economic assessment of forest management options for producing multiple ecosystem services in the MENA region

Author(s): Hamed Daly-Hassen*, Nelly Bourlion, Nadia Ouadah, Ozge Balkiz, Bernadette Karam, Magali Maire

Affiliation: INRAT, Universityu of Carthage, Tunisia

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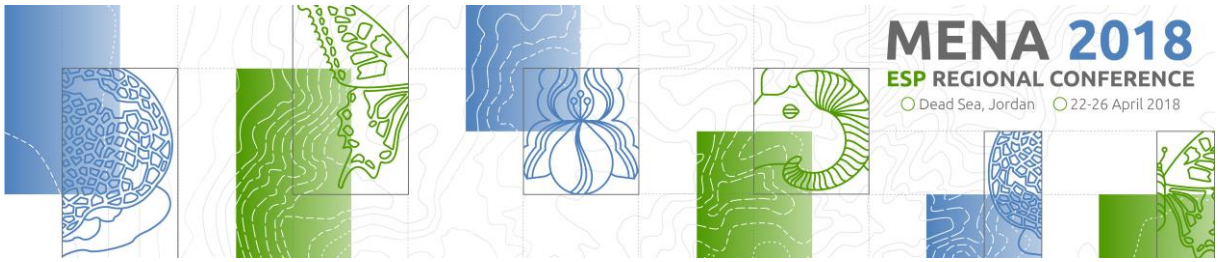
Forests in the MENA region are often characterised by the variety of goods and services provided (grazing, water protection, recreation, firewood, fruits, etc.) and the diversity of beneficiaries (government, local population, visitors, society, global community) on these mainly publicly owned land. Usually, forest management options have an impact on both services provided and beneficiaries. As demand increases for services such as recreation, water protection and carbon sequestration, it is important to choose forest management options that are based on the sustainable production of these services, although, they can induce losses for some stakeholders. The purpose of this article is to assess various forest management options aimed at producing environmental and cultural services and to evaluate their effects on different stakeholders. Four forest study sites were selected in Algeria, Lebanon, Tunisia and Turkey, and different management options were proposed. The cost-benefit analysis (CBA) method was used to determine the net present value of the various management options and the gains / losses for different stakeholders. Several valuation methods were used to estimate the values of ecosystem services. These include the travel cost method and the contingent valuation method for recreation, and the damage cost avoided method for water protection. Results show that each site has at least one viable management option that produces net benefits for the society, however, it may induce losses for the local population. Socially beneficial options must therefore be adapted to have sufficient interest for all stakeholders, creating win-win situations or compromises through incentives (compensation, payment for environmental services).

Keywords: Social profitability, forest management options, MENA region



7. Type of submission: ***Voluntary contribution***

T. Thematic Working Group sessions: T12 Refugees and humanitarian green response

Landscape and migration: a landscape risk model to assess the impact of Syrians' displacement in the agricultural Lebanese areas

Author(s): Maria Gabriella Trovato

Other author(s): Dana Ali, Jessica Nicolas

Affiliation: American University of Beirut, Lebanon

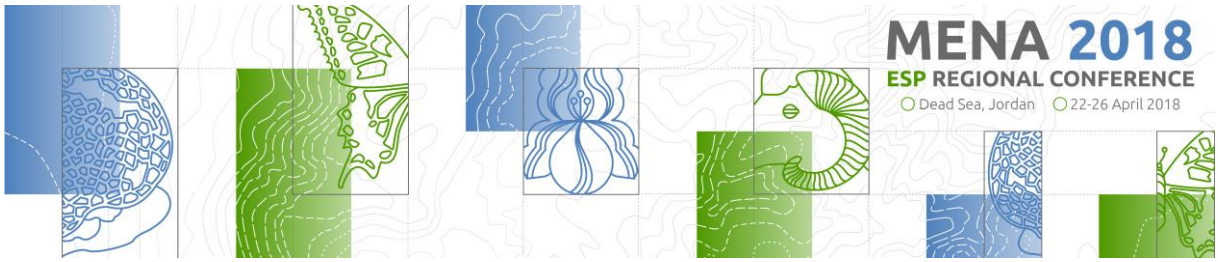
Contact: mt63@aub.edu.lb

Abstract: In recent years, the competition of uses for scarce and highly valuable natural resources, and the frequency and severity of natural and war related disasters have increased, and this trend is likely to worsen in the years to come. In Lebanon, the high human exploitation driven by different economical sectors and interests, and recently by the rates of Syrians Informal Settlements scattered all over the country, is resulting in intensive use of the land and its resources. The intense demands that the displaced Syrians are placing on already stressed and sensitive rural landscapes is degrading the environment and causing further deterioration.

The rapid growth of urban and rural settlement under the Syrian pressure, the ceaseless movement and displacement of populations, and the land use change and related degradation of the agricultural areas are profoundly and rapidly changing the landscape character of Lebanon. The news and contemporary debates are quoting the difficulties that the hosted countries are passing through, and how they are unprepared to accommodate to the new arrivals. Millions of people, re-allocated in new contexts, are determining new physical and temporal processes and new relations between the existing and the newly inserted structures.

In order to provide all humans with an environment that is viable and worth living, new planning models and approaches have to be developed, both strategically and systemically. Furthermore, landscape needs to be considered as a tool to re-establish the lost connections, to identify new characters and to begin planning processes of integrated design with effects on the landscape at different spatial and temporal scales.

The paper reports the experience we are conducting at the Landscape Design and Ecosystem Management Department (LDEM) in the American University of Beirut (AUB) by developing new landscape planning strategies focused on the premise of sustainable land use, utilizing two tools: Landscape Risk Assessment model (LRA), and Decision Support System (LDSS),



developed during the MEDSCAPES-ENPI project. It aims to provide insight into the methodology we are adopting taking into account the protection of landscapes of particular interest and the rational planning of all the landscapes, with special emphasis on the use of natural resources.

Keywords: Land use Change; Syrian Informal Settlements; Landscape planning; Landscape Risk Assessment Model; Landscape Decision Support System