

Social Vulnerability to Natural Hazards Differs Between Urban and Rural Areas

Yen Tong*

Department of Chemical and Biomolecular Engineering, National University of Singapore, 1 Create Way, Singapore

Introduction

The rural region known as a pair-wise comparison, a GIS environment was used to create an integrated hazard map. The proposed method can be scaled up for integrated environmental hazards analysis in similar regions of Latin America and the maps serve as a first baseline for the analysis of the current state of natural resources in the "Valles Cruceos" area. Life-Cycle Assessment (LCA) tools have been used to investigate ENMs' potential impact on the environment up until this point, from the creation of raw materials to their final disposal. However, the environmental impact of in-place employment was not included in the LCA studies, which instead focused on the production phase's impact.

Discussion

Using ecotoxicological tools that enable the evaluation of potential risks posed by ENMs to natural ecosystems and wildlife, a recently developed eco-design framework sought to fill this knowledge gap. In this review, we show how the eco-design framework came to be and talk about how ecotoxicology can be used to make ecosafe ENMs for cleaning up the environment. In addition, we provide a critical analysis of the ENMs that are currently available for the remediation of the marine environment. We also discuss the benefits and drawbacks of these ENMs for safe environmental applications and the need to strike a balance between benefits and risks in order to advance ecosafe nanoremediation in the future.

However, their fate and safety following application in the environment, which may be connected to their release into the environment, are largely unknown. The development of systems that are capable of anticipating ENM interactions with biological systems and their overall impact on the environment and human health is crucial. The region, like many other rural areas in South and Central America, is experiencing progressive and severe environmental degradation as a result of the growing demand for its natural resources. In this circumstance, sound policies and governance for sustainable land management are ineffective and unsupported by data and research findings. With this study, we want to create a novel and useful integrated hazard analysis method that will help understand hazard patterns based on evidence and inform risk assessment processes across the urban-rural continuum. First, the area's most significant environmental threats were identified through questionnaire campaigns run by municipal employees. Hazard maps were created by utilizing a variety of environmental hazards indicators and concentrating on the threats

that were primarily perceived by the region's residents, such as deforestation, water pollution and changes in precipitation.

Numerous fatalities and significant financial losses are the result of natural disasters and extreme events each year. Including epidemics, natural hazard-related disasters were responsible for the deaths of over 3.4 million people worldwide between 1970 and 2019 and the number of people negatively impacted by natural hazard-related disasters tripled between the 1970s and the 2010s. Natural disasters are known to have a negative economic impact in addition to their immediate impact on fatalities, with global economic losses estimated at over \$2554 billion USD between 2000 and 2019. A higher death rate in countries with a low socio-demographic index value following high impact hazard events is evidence that vulnerable socioeconomic populations are typically the most adversely affected. In recent years, the use of engineered nanomaterials (ENMs) in environmental remediation gained increasing attention. ENMs have the potential to efficiently and more effectively remove pollutants from environmental matrices than conventional methods due to their large surface area and high reactivity.

The Universal Soil Loss Equation (USLE) model and geographic information systems (GIS) can be utilized to estimate soil erosion and sediment yield from abandoned mining areas' mine tailing dumps for a specific mine region. This study processed and compiled maps of the five primary factors that affect soil erosion by utilizing a GIS database and the mean annual rainfall recorded at the nearest observatory over a 30-year period: the slope length and steepness factor (LS), cropping management factor (C) and supporting conservation practices factor (P), as well as the rainfall erosivity factor (R, in MJ mm ha¹ h¹ year¹), soil erodibility factor (K, in ton h 10⁷ J mm) and slope length and steepness factor (LS). [1-3] The mean annual rate of soil erosion (A, in tons per hectare per year) was then determined by multiplying the maps of these major factors using a map algebra method.

Biosolid and sewage sludge The majority of the time, sewage sludge has higher antibiotic concentrations than sediment; The first is in the range g/g. Probably because of how well sewage sludge can absorb antibiotics. It was discovered that the majority of antibiotics in sewage sludge were TCs and FQs; TC and OFL were found in concentrations of up to 1,650 and 5,800 ng/g, respectively, indicating that TCs and FQs are mostly removed from wastewater through adsorption onto sludge. In a similar vein, it was observed that another FQ, CIP, had a concentration of up to 4,625 ng/g when adsorbed to sludge. Bio solids have been used in agriculture as soil conditioners and typically come from treated sewage sludge. Bio solids contained concentrations of CIP, OFL and NOR greater than 1,000 ng/g [22]. The levels of antibiotics in bio solid and sewage sludge need to be monitored in WWTPs because they will be released into the environment if no other treatment process removes them [4].

Used an information diffusion approach to carry out a risk assessment of casualties caused simultaneously by floods and typhoons at the sub-provincial level in the Yangtze River Delta region. Using the information diffusion method, the risks of building collapse, crop losses and direct economic losses resulting from typhoons and floods at the county level in the same region were also evaluated. Evaluated the risks posed jointly by floods and typhoons in the Yangtze River Delta region on the county and 1 km x 1 km grid scales. Information diffusion does not require as much historical loss data as the Copula method does. However, it should be noted that the majority of these studies only considered two distinct dangers [5].

*Address for correspondence: Yen Tong, Department of Chemical and Biomolecular Engineering, National University of Singapore, 1 Create Way, Singapore; E-mail: tongy54@gmail.com

Copyright: © 2022 Tong Y. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received: 29 September, 2022, Manuscript No. jeh-23-85854; Editor assigned: 30 September, 2022, PreQC No. P-85854; Reviewed: 14 October, 2022, QC No. Q-85854; Revised: 20 October, 2022, Manuscript No. R-85854; Published: 28 October, 2022, DOI: 10.37421/2684-4923.2022.6.187

Conclusion

Quantitative risk assessments for more than two hazards have not been done. Terrace cultivation systems make extensive use of these fertile areas, but crops' root systems are less effective than those of forests and meadows. In addition, research reveals that upland rice cultivation systems, which are utilized in landslide-prone regions of Africa and Southeast Asia, still carry a high risk of landslides due to the timing of harvest and the soils' inability to withstand heavy rainfall from tilling practices.

Acknowledgement

None.

Conflict of Interest

There are no conflicts of interest by author.

References

1. Bergsagel, P. Leif, Marta Chesi, Elena Nardini and Leslie A. Brents, et al. "Promiscuous translocations into immunoglobulin heavy chain switch regions in multiple myeloma." *Proc Natl Acad Sci* 93 (1996): 13931-13936.
2. Cappuccio, Francesco P., Saverio Stranges, Ngianga-Bakwin Kandala and Michelle A. Miller, et al. "Gender-specific associations of short sleep duration with prevalent and incident hypertension: The Whitehall II Study." *J Hypertens* 50 (2007): 693-700.
3. Dai, Dongjun, Hanying Wang, Liyuan Zhu and Hongchuan Jin, et al. "N6-methyladenosine links RNA metabolism to cancer progression." *Cell Death Dis* 9 (2018): 1-13.
4. Stranges, Saverio, Joan M. Dorn, Francesco P. Cappuccio and Richard P. Donahue, et al. "A population-based study of reduced sleep duration and hypertension: The strongest association may be in premenopausal women." *Int J Hypertens* 28 (2010): 896-902.
5. Desrosiers, Ronald, Karen Friderici and Fritz Rottman. "Identification of methylated nucleosides in messenger RNA from Novikoff hepatoma cells." *Proc Natl Acad Sci* 71(1974): 3971-3975.

How to cite this article: Tong, Yen. "Social Vulnerability to Natural Hazards Differs between Urban and Rural Areas." *J Environ Hazard* 6 (2022): 187.