

## ENVIRONMENTAL MANAGEMENT PROGRAMME MASTER OF ENVIRONMENTAL MANAGMENT URBANISATION AND DEVELOPMENT MODULE

## **Integrated Assignment:**

Environmental Impacts of urban sprawling in Cape Town using Dunoon as a case study

Over the last three decades, South Africa has experienced perpetual population growth following rural-urban migration. This form of urbanisation has resulted to the phenomenon of the urban sprawl. The term Urban sprawl, or suburban sprawl, simple refers to the unrestricted growth in many urban areas of housing, commercial development, and roads over large expanses of land, with little concern for urban planning. Like various developing cities, the city of Cape Town is experiencing rapid urban sprawling in peri urban areas, i.e., areas that has never experienced any form of development.

In view of the above, you are required to write a report in which you discuss the environmental impact of urban sprawling with reference to the ongoing growth of informal settlement in Dunoon area. The environmental analysis of urban sprawling should focus entirely on the biophysical environmental aspects. Should you identify a range of activities and associated socio-economic dynamics playing out in the area, note that it is critical to always narrow it down to the specific impact on the environment. To perform this task, you need to undertake the following:

- 1. Trace the spatial evolution of the area emanating from urban sprawling by mapping the magnitude and extent of land use activities and land cover change in the area. This will entail a collection of arial photo maps to study the land use change from 1998 to 2020.
- Undertake land use analysis by determining the relationship between land use activities to trace the nature and impact of urban sprawling.
- 3. I identify the environmental impacts and these where applicable.
- 4. Draft a report to show the above information with reference to the environmental impact of urban sprawling by using Dunoon as a case study.

## **Prescribed References:**

Cocheci, M. (2013). Environmental impact assessment of urban sprawl in the Brascow Metropolitan Area. Urbanism, 5(2): 21-37 Available from https://uac.incd.ro Accessed on the 8 January 2018.

Dadras, M., Shafri, H. Z., Ahmad, N., Pradhan, B., & Safarpour, S. (2014). Land Use/Cover Change Detection and Urban Sprawl Analysis in Bandar Abbas City, Iran. The Scientific World Journal, 1-12 DOI:10.1155/2014/690872.

Daemane, M. M. (2014). The review of urbanisation process and local governance implications on sustainable urban-human development and poverty reduction. Journal of sustainable development in Africa, 16(1): 97-112.

Davoudi, S., & Stead, D. (2002). Urban-rural relationships: An introduction and brief history. Built Environment, 28(4):268-277 DOI: 10.2307/23287748.

Dupras, J., Maruli, J., Parcerisas, L., Coll, F., Gonzalec, A., Girard, M., & Tello, E. (2016). The impacts of urban sprawl on ecological connectivity in the Motreal Metropolitan Region. Environmental Science and Policy, 58(2016):61-73 DOI:10.1016/j.envsci.2016.01.005.

Furberg, D., & Ban Yifang. (2012). Satellite monitoring of urban sprawl and assessment of its potential environmental impact in the greater Toronto area between 1985 and 2005. Environmental Management, 50(6): 1068-1088 DOI:DOI 10.1007/s00267-012-9944-0.

Garouani, A. E., Mulla, D. J., Garouani, S. E., & Knight, J. (2017). Analysis of urban growth and sprawl from remote sensing: Case of Fez, Morocco. International Journal of Sustainable Built Environment, 6,160-169 DOI:10.1016/j.ijsbe.2017.02.003.

Irwin, E. G. (2003). Using GIS to model patterns of urban-rural land use change. Columbus OHIO: Ohio Geospatial Technology Conference for Agriculture and Natural Resources.