The Impacts of Modern Urbanization on the Cultural Landscape of Jerash Archaeological Site

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Abstract


The cultural landscape of Jerash archaeological site is one of the most important Landscapes in Jordan; it is located about 45 km north of the capital Amman. The total area of the Archaeological site is approximately 2.5km². The study area consists of the archaeological site and one kilometer around it. Jerash cultural landscape is rich in its archaeological monuments and natural diversity which can give several significant values (Historical, Aesthetic, Symbolic, Scientific, Educational, Economic, and Religious values). Due to the population growth and the urban expansion in the modern city of Jerash, many important monuments and traditional buildings were damaged and disappeared.

The principal aim of this research is to analyze the land use changes, impacts and root causes of the modern urbanization which influenced the cultural landscape of Jerash archaeological site during the period (1953 - 2007). GIS modeling was used to determine the suitable locations for constructing new multifunctional buildings and the alternative for Amman-Irbid road in order to protect the integrity of the archaeological site from the impacts of modern urbanization. GIS mapping was used to produce an archaeological
zoning plan through delineating buffer zones around the City Wall area and the antiquities areas. This will hopefully help to protect and enhance the visual appearance of Jerash site.

The aerial photographs taken at different years during the period of the study (1953, 1978, 1992, 2000, and 2007) have been manipulated by using GIS to generate land use maps for the study area. The results of analysis the land use changes in the study area during these periods shows that significant changes in land use have occurred. In 1953, the unused spaces have estimated at about 65.8%, whereas the modern urbanization areas covered 3.1%. In 1978, the unused spaces decreased to half while the modern urbanization areas began to increase to 24%. In 1992, the unused spaces decreased again to about 14.2%, while the modern urbanization areas increased significantly to 40.2%. In 2000, the unused spaces around the site decreased sharply to about 2.3%, the modern urbanization areas largely increased (61.8%). After eight years, the unused spaces around the site decreased gradually to about 1.4%, the modern urbanization areas are approximately still constant as in 2000 (61.4%).

These land use changes caused many urbanization impacts (tourism, commercial, infrastructure, housing, and population growth impacts) which damaged and caused visual pollution to the archaeological and traditional remains.

The most important causes for these adverse changes are lack of adequate legislations which protect the cultural landscapes of the archaeological sites and poor coordination between different authorities and governmental departments for controlling the activities of modern urbanization inside the City Wall and its surrounding area.
Land suitability model was used to find the appropriate locations for constructing the multifunctional buildings and the alternative for Amman-Irbid road in order to transfer the modern urbanization and its impacts outside the City Wall and the antiquities areas through transferring the administrative departments, governmental offices, commercial and the tourism activities to the multifunctional buildings outside the City Wall and the antiquities areas. This will force the people to emigrate the City Wall area and reside around the new multifunctional buildings and the alternative road. Such modeling helps to extract information which is impossible or too expensive to measure. GIS mapping was used to prepare archaeological zoning plan around the City Wall and the Antiquities areas for effective protection and to limit urban expansion onto the cultural landscape of Jerash. All of these will minimize the harmful impacts of modern urbanization on the cultural landscape of Jerash archaeological site.

Key words: Modern Urbanization, Jerash, Cultural Landscape, Aerial photographs, Land uses, Landscape Planning, Archaeological zoning planning, Geographic Information System (GIS).