Abstract:
An effective and efficient route selection process is vital in minimising the construction time and cost. Loss of man hours as a result of distance from source to destination, insecurity and damage of perishable goods has necessitated the need for this study. This paper presents the results of a study for the development of least cost pathway (LCP) between two points using different criteria and to compare the existing route path with LCP. Landsat 8 OLI/TIRS image, shuttle radar topography mission (SRTM) digital elevation model (DEM) and soil map were used to meet the criteria. ArcMap 10.1 was used for data analysis. The criteria determined were reclassified to a common scale and weighted using analytical hierarchy process to create the cost surface. The output distance raster and output backlink raster were created. LCP was found to provide much shorter route compared to the existing route In addition, LCP based on the inputted criteria was able to show a considerable level of compliance.

For full paper, contact:
Prof Muhammad Masood Rafi
Editor-in-Chief, NED University Journal of Research
Ph: +92 (21) 99261261-8 Ext: 2413; Fax: +92 (21) 99261255
Email: NED-Journal@neduet.edu.pk
Website: http://www.neduet.edu.pk/NED-Journal

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1 PhD student, Surveying and Geoinformatics Department, Modibbo Adama University of Technology Yola, Nigeria, Ph. +234(0)7069241478, Email: emmapeter504@gmail.com.
2 Lecturer, Surveying and Geoinformatics Department, Modibbo Adama University of Technology Yola, Nigeria, Ph. +234(0)8036127598, Email: drabumusa@yahoo.com.
3 Lecturer, Surveying and Geoinformatics Department, Federal University of Technology, Minna, Nigeria, Ph. +234(0)7030061896, Email: nanponzitta@yahoo.com.