World Academy of Science, Engineering and Technology
International Journal of Agricultural and Biosystems Engineering
Vol:9, No:08, 2015

The Study of the Socio-Economic and Environmental Impact on the Semi-Arid Environments Using GIS in the Eastern Aurès, Algeria

Authors : Benmessaoud Hassen

Abstract : We propose in this study to address the impact of socio-economic and environmental impact on the physical environment, especially their spatiotemporal dynamics in semi-arid and arid eastern Aurès. Including 11 municipalities, the study area spreads out over a relatively large surface area of about 60.000 ha. The hindsight is quite important and is determined by 03 days of analysis of environmental variation spread over thirty years (between 1987 and 2007). The multi-source data acquired in this context are integrated into a geographic information system (GIS).This allows, among other indices to calculate areas and classes for each thematic layer of the 4 layers previously defined by a method inspired MEDALUS (Mediterranean Desertification and Land Use).The database created is composed of four layers of information (population, livestock, farming and land use). His analysis in space and time has been supplemented by a validation of the ground truth. Once the database has corrected it used to develop the comprehensive map with the calculation of the index of socio-economic and environmental (ISCE). The map supports and the resulting information does not consist only of figures on the present situation but could be used to forecast future trends.

Keywords : impact of socio-economic and environmental, spatiotemporal dynamics, semi-arid environments, GIS, Eastern Aurès
Conference Title : ICEAE 2015 : International Conference on Ecological and Agricultural Engineering
Conference Location : Kuala Lumpur, Malaysia
Conference Dates : August 24-25, 2015