Use Techniques of Remote Sensing Images and Geographic Information Systems to Estimate the Area of Random Housing

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Abstract

The use of technology of remote sensing images and science of geographic information systems are interconnected for the purpose of visual interpretation of satellite and aerial images corrected geometrically, which are frequently a scale large fee for the purpose of conducting engineering measurements it can use this modern technology in the squatter area account within the city of Samawa center is fast and accurate outcome helping to assess and study the situation for this type of housing, which spread after 2003, where are these spaces classified on the basis of the density of housing units that are spread in the area exploited for this purpose based "on the intensity scale designed by the researcher and the results show that he can use this method to produce cadastral map is accurate and inexpensive and a short time afterwards spaces untapped showing housing RAM can be made to repeat the process to search different periods of time for the purpose of assessing the problem and to develop appropriate solutions.

Keywords: use of technology of remote sensing, geographic information systems, random Housing

Introduction

The monitor phenomena ground operation, including the residential sectors of space and measure the area or classification process is one of the things very important being a help in the conduct of many events associated with the uses of the land and construction of urban planning with high efficiency as well as the study of the risks of agricultural land and orchards turned into housing units disorganized because of the randomness in the distribution and planning. The process control previously urbanization "rely on a small aerial photographs scale and there is no well-developed programs used to draw the land use maps but at the present time and with the availability of modern software vast amount of information that is obtained from aerial photographs and satellite visuals and high accuracy with winning in the field of analysis of progress Digital using a computer and specialized programs in this area contributed to the conduct of studies and research at a low price so are becoming very economical "in the light of the results that are obtained as stated [Nichols] (that in the case provide suitable for the type of study aerial photograph and if properly interpreted visually," she will give accurate results and reduce the cost of the study by at least 44% compared to the study based on field inventory only too). slums is in the city of Samawah phenomena that emerged after 2003, which contributes to the deformation of the urban fabric of the city Add to lead to the elimination of spaces the wide range of agricultural areas and palm trees, which represents the city's clean environment and a significant impact on summer temperatures "therefore, the research aims to find a way rapid assessment and economical through the use of satellite images and aerial corrected with high accuracy for the purpose of a clear distinction for housing indiscriminate and determine area and which resulted through logging or overtaking on land classified as agricultural. " The assessment of the level of these spaces of random housing can officials access and develop appropriate solutions to manage and which could encourage them to develop systems necessary to limit this process, reforestation and the provision of suitable inner-city green environment and addressing the status quo and laws.

The Method of Work

Represented way of working through a geographical return the process space of the image and match them with the grid of the map, according to the UTM system for the city of Samawah used to determine the slums with a change in misleading and transparent image to the study area appear as clearly as possible which identified easily this process has been made through the use of a program erdas the final preparation of a roadmap UTM by GIS software arc map 10 was accurate PIXL image units (60 cm x 60 cm) and as they appear in the images shown in Figure (1) which appear on the squatter and shape space (2) photo enlarged several times Residential areas where they can clearly distinguish light-colored and dark-colored trees Add to extension of road networks, bridges, this vision can be achieved after chromatography improvement of the image, as in Figure 3, which shows the untapped housing RAM space The adoption of the following percentages (assuming researcher) rating scale for density residential assembly of housing units within the same space.

A few housing units (less than   25%)

Residential and medium units (from 25-75%)

Residential units dense (more than 75%)

Based "on this assumption has been identifying areas of housing units within the squatter separately and then determine the total area within the city that have been exploited for the purpose of slums to see the land area that

has been exploited Figure 4 shows the land area.
Untapped habitable spaces were indiscriminate account through a classification process and measure the spaces using GIS program.
Results
During a preview of map No. (4) the results of spaces emerged as misinformation chromatography:
• green spaces are hard high-density urban areas, where the calculated its area reached 10.3 km 2
• spaces misleading blue durum is a medium-size spaces calculated amounted to 0.52 km 2
• spaces misleading red italics are few urban areas area calculated amounted to 0.15 km 2
• While total planned area of urbanism random 1.15 km 2 reached
• The total undeveloped parcels urban spaces Random 0.98 km 2
• Percentage of residential areas relative to the total area of the planned housing indiscriminate reached 85%.
The final map was produced after the classification process by GIS program as shown by map number (1), a colorful map according to the UTM system showing the agglomeration random areas.

Conclusions And Recommendations
Can be seen by the numbers that have been obtained from research that 30% of Urbanism space in debtor represents random housing, a serious indicator threatens urban growth mechanism in the city of Samawah because the slums areas are illegal because they lack a healthy environment requirements and lead to visual pollution due to negligence considerations aesthetic of Urbanism, which leads to social disorder, so we recommend that those responsible for urban planning in the city and other official circles interested need to stop this expansion of others thoughtful, continuous and develop the necessary to preserve the city's environment and improve the image of urban planning based on future urban planning and stop this plan solutions management urban sprawl non-programmer at the expense of cutting the palm trees and the elimination of green environment. The results also indicate that the use of remote sensing technology is of great economic importance in the study of urbanization non-programmer and determine prevalence areas and relying on satellite images as seen from the mechanism used in the search urbanization of cities periods consecutive time and determine the positive and negative aspects for decision-making can be monitored Occasion .
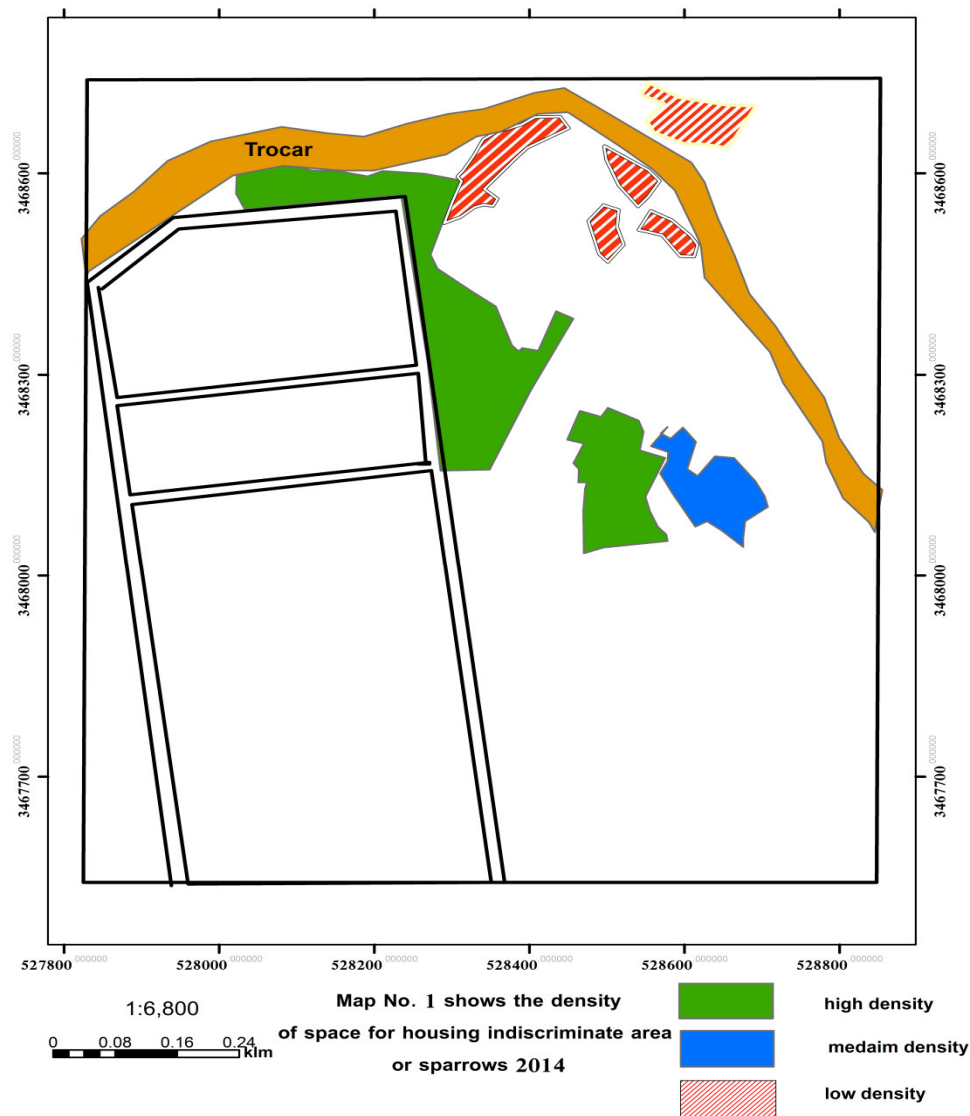

Figure 1 the original image used air

Figure 2 photo enlarged several times showing the density of random buildings

The outer limits of space squatter

Figure 3 Air image specified by the area under the random housing

Figure 4 land area by population density

Map No. 1 shows the density of space for housing indiscriminate area or sparrows 2014

1:6,800

The Sources

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