

# Site Selection and Planning of Low Cost Housing using Rs and Gis: a Case Study on Prakasam District

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**Abstract:** Site selection for projects is generally done by manual surveying for analyzing the data required for the project. But this takes lot of time for manual data gathering and analyzing the data for finalizing the site. There is lot of wastage in resources as this trend has been running for many years. To resolve this problem, this study proposes implementation of RS and GIS during site selection procedure, locate an area using RS and GIS with desired requirements for a low cost housing project. The location used for this study is Donakonda area, Prakasam District, Andhra Pradesh (low cost housing for industrial workers). The main aim of this study is to propose a planning for low cost housing by gathering all the site selection details using RS and GIS, collect data required for low cost housing and propose a low cost housing planning. The ultimate result from this study is to show that the cost and time incurred during site selection of any project can be reduced using RS and GIS and improve the planning efficiency.

**Index Terms:** Geospatial Information System (GIS), low cost housing, Remote Sensing (RS),.

## I. INTRODUCTION

Nowadays the field of Remote Sensing and GIS has become moving and elegant with rapidly expanding opportunities. Many organizations spend massive amounts of money on these areas. This due to it is relatively cheap and we can easily reconstruct a base map in absence of detailed land survey methods

At present, GIS is used for town planning and management. It is progressively becoming an important component of planning support systems. GIS is an important tool in urban planning as it has advancements like visualization planning models etc; even then it is not widely used in urban planning not because of its technical issues but because of lack of availability of data. With rapid increase in population there has been increase in gap between demand and supply and keeping this in view to increase the housing standards of people living in slums affordable housing concept came into existence. This problem if not considered not only create problem to individuals but also effect national economy. People generally face problems regarding high rates of housing lands, low income ownerships. Affordable housing has different definitions depending on the situations. In order to provide housing for all many aspects are to be considered and of these most of them include technical advancements.

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Site selection has given less importance but has major impact on low cost housing. In site selection many factors are to be considered which are majorly classifies as natural factors, manmade factors and aesthetic factors. Natural factors include geology of the location, depth of the bedrock, water table and terrain conditions. made factors include factors like exiting land use patterns, traffic and transit conditions,

Existing regulations, standards and basic utilities. Aesthetic factors include natural features and spatial patterns which are given less importance in general. These factors are not fixed and vary from place to place. Depending on the requirements these factors are given weightings and site is selected which would result in low cost housing.

## II. RESEARCH SIGNIFICANCE

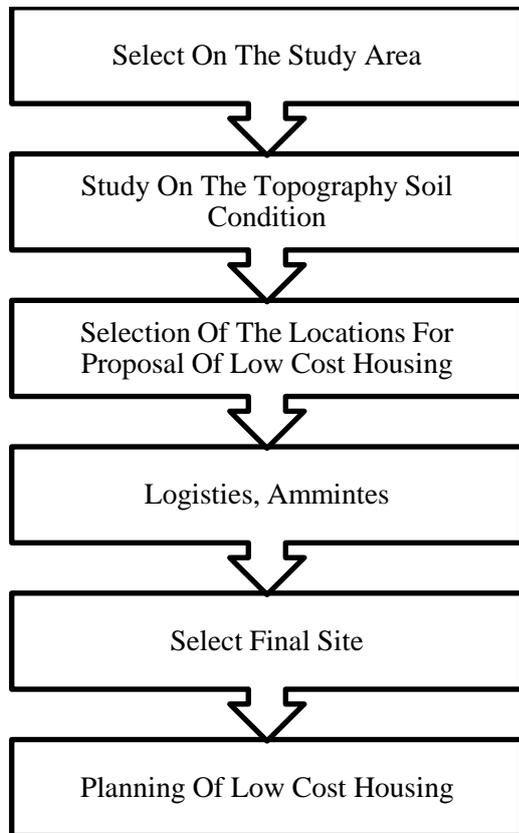
This paper reveals a optimal solution as an approach to decision making and to improve the productivity and efficiency using GIS. This paper explores the real life issues and decisions for location selection and suggesting an integrated approach by selecting a site using GIS and the issues faced during the selection of site and planning for affordable housing using the smart technologies available and reduce the cost of construction and improve the quality and life of building .Spatial data for selection of suitable site for construction. Evaluation of available natural resources in proposed area for planning of low cost housing.

## III. DESCRIPTION OF WORK

### A. Methodology

The present study involves selection of study area ie., Donakonda which is located in Prakasam district, Andhra Pradesh, India. After selection of study area, we should study the topography and soil condition of Donakonda village. After understanding the soil conditions, we should select the location which is more suitable for low cost housing. We should identify the location for low cost hosing in such a way that the selected location should have at least basic amenities and we should finalize the site. After selecting the site, we should plan for constructing a low cost hosing. The below Flowchart 1 represent outline for selection of low cost housing.





**Flowchart 1: Outline for planning low cost housing**

**B. Study area**

Donakonda is a village in Prakasam district of the Indian state of Andhra Pradesh. It is located in Donakonda mandal in Kandukur revenue division.

Donakonda is located at 15.8333°N 79.4833°E in Prakasam district. The land is mostly flat though hilly country begins some distance away .population according to the 2028(2011)1Below the image shows selected area selection region to the construction low cost housing.



**Source: Location of Donakonda area on toposheet**



**Source: Location of Donakonda area trace paper**

**IV. CONCLUSION**

Development of an area in terms industries would result in population in that area. These include daily workers, employees who generally economically low. b. It is our basic duty to provide housing for those people. The houses so provided are permanent structures and hence spending huge amount is problem in finance point of view. Here comes the concept of affordable housing. There are various techniques used for low cost housing but land cost plays a major role, so proper site selection further reduces the costing of houses. Selection of site majorly involves in identifying various sites available for construction purposes. Buffer regions considering various guidelines and requirements are drawn and sites are ranked accordingly. Selection of site majorly involves in identifying various sites available for construction purposes. Buffer regions considering various guidelines and requirements are drawn and sites are ranked accordingly.

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National Awards. Visited number of countries around the world and presented Research work in USA, Sweden and Japan. Presented and participated more than 100 International and national conferences, seminars, workshops. He guided research work of 3 students leading to award of Ph.D. Authored 4 books. He is the life member of various International & National professional bodies.



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