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## Factors Affecting Construction Of Housing Schemes In Hyderabad, Telangana.

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**Abstract:** India grapples with a significant housing problem, particularly for its low-income population. The housing market has traditionally favored middle and higher-income groups due to perceived profitability, resulting in a considerable disparity between the supply and demand for affordable homes among lower-income individuals. This persistent challenge has left millions of people in India facing inadequate housing conditions. As of 2021, the National Family Health Survey (NFHS) reported that 34% of the global population resides in Kacha or Semi-Kacha Houses. In response to this pressing concern, the Indian government, in collaboration with entities such as the Telangana State Housing Corporation Limited (TSHCL), has made concerted efforts to alleviate the housing crisis. TSHCL, as a government-owned corporation, plays a pivotal role in advancing affordable housing initiatives in Telangana.

To better understand the factors influencing affordable housing in India, this research focuses on affordable housing projects managed by the Ministry of Housing and Urban Affairs in Telangana. The study aims to identify the factors affecting project productivity through an extensive questionnaire survey featuring 96 questions. Responses were gathered from 180 participants, including Project Managers, Project Engineers, Consultants, Site Engineers, Contractors, and Builders. The collected data underwent rigorous analysis using the Relative Importance Index (RII) method. This analytical approach enabled researchers to pinpoint critical factors contributing to the challenges affecting affordable housing projects in Telangana. Furthermore, to facilitate data analysis and decision-making across various disciplines, including housing and urban development, sophisticated software tools like SAS (Statistical Analysis System) were employed.

**Keywords:** Housing, Affordable Housing, Housing Problem, Relative Importance Index (RII), SAS, Subject Matter Expert Committee, Telangana State

## I.INTRODUCTION

Telangana, a dynamic Indian state, faces significant housing challenges due to rapid urbanization and population growth. As cities expand, the demand for affordable housing has increased, particularly for economically weaker sections (EWS) and low-income groups (LIG). Recognizing the urgency, the government has launched several housing projects to address this gap. These initiatives aim to provide dignified living spaces, improve quality of life, and enhance social inclusion for these vulnerable groups.

Despite these efforts, the path to successful implementation is complex. Issues such as land acquisition, construction delays, and ensuring equitable distribution of housing units pose significant challenges. Land acquisition often involves legal and bureaucratic hurdles, delaying project timelines. Construction delays can result from a variety of factors, including funding shortages, logistical issues, and regulatory obstacles. Additionally, ensuring that housing projects reach those most in need requires careful planning and transparent processes to prevent favoritism and corruption.

Understanding the context and objectives of Telangana's housing projects is crucial for effective policy formulation and sustainable development. These projects are designed not only to meet immediate housing needs but also to promote long-term social and economic benefits. By providing stable and affordable housing, the government aims to improve residents' quality of life, increase social inclusion, and stimulate economic growth. Comprehensive strategies that address land acquisition, streamline construction processes, and ensure fair distribution are essential for the success of these housing initiatives. For more detailed insights, official government reports and housing studies provide valuable information on the progress and impact of these projects.

### 1.1Need for the Study

- **Addressing Housing Shortage Challenges:** Highlight the urgency to address housing shortage challenges by focusing on efficient project management, technology integration, and policy modifications for streamlined execution of affordable housing projects.
- **Effective Project Management Solutions:** Emphasize the need to explore and implement effective project management solutions to overcome housing shortage challenges, emphasizing resource optimization, timeline adherence, and quality control in construction practices.
- **Advocating for Policy Changes:** Advocate for policy changes based on project management insights to enhance housing accessibility, particularly emphasizing the need for streamlined approval processes, standardized construction practices, and effective project monitoring mechanisms.

## 1.2. Objectives of the Study

The main objectives of the experimental investigation are:

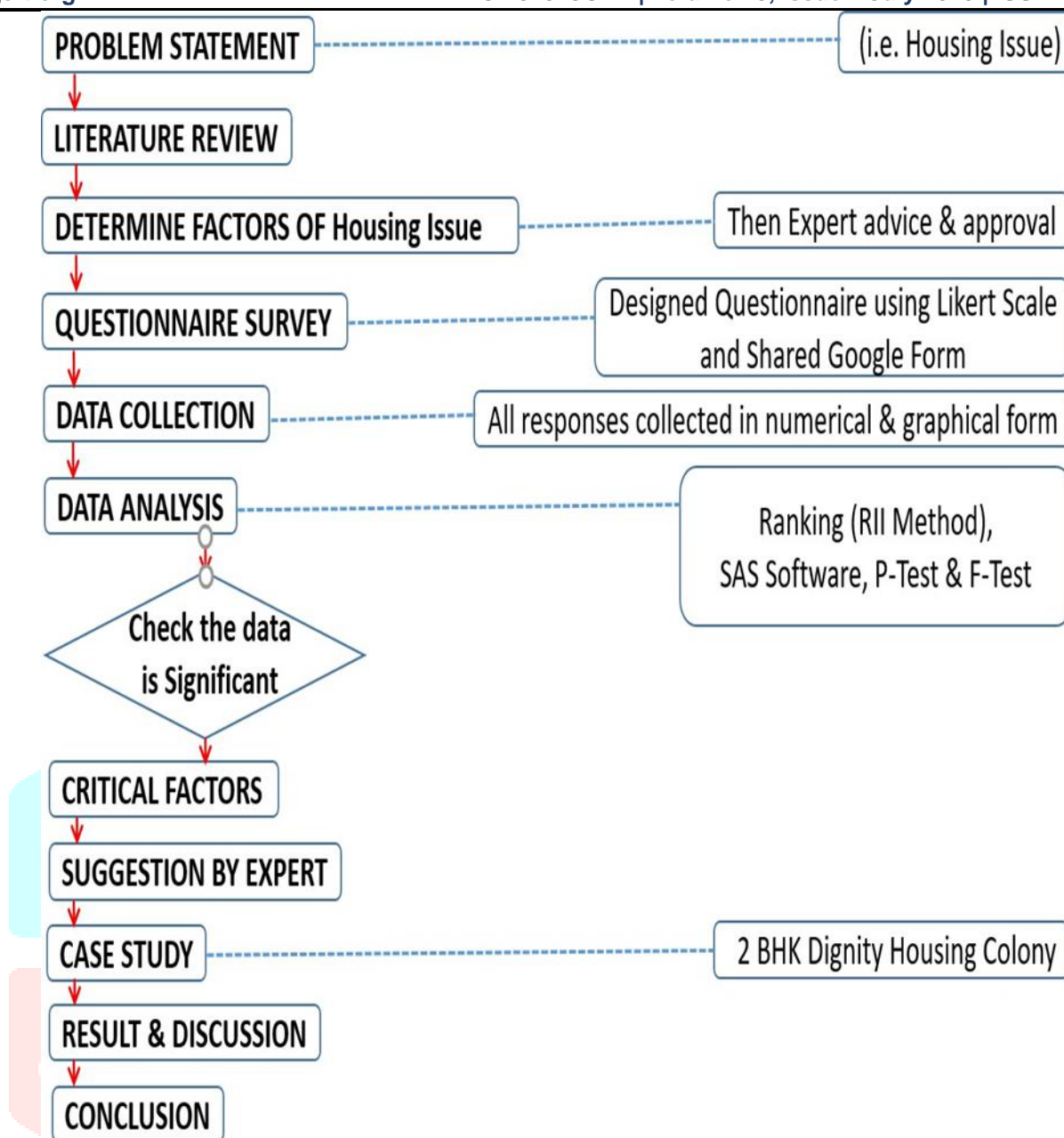
- . To identify the issues that affect housing schemes in Hyderabad.
- To analyse the adverse effects of these factors on housing projects through a questionnaire survey.
- To utilize SAS software to analyse the collected data and compute the Relative Importance Index (RII) to find the critical factors.
- To develop strategies to address and mitigate the identified challenges, to improve the success rate of government housing initiatives.

## 1.3. Scope of the Study

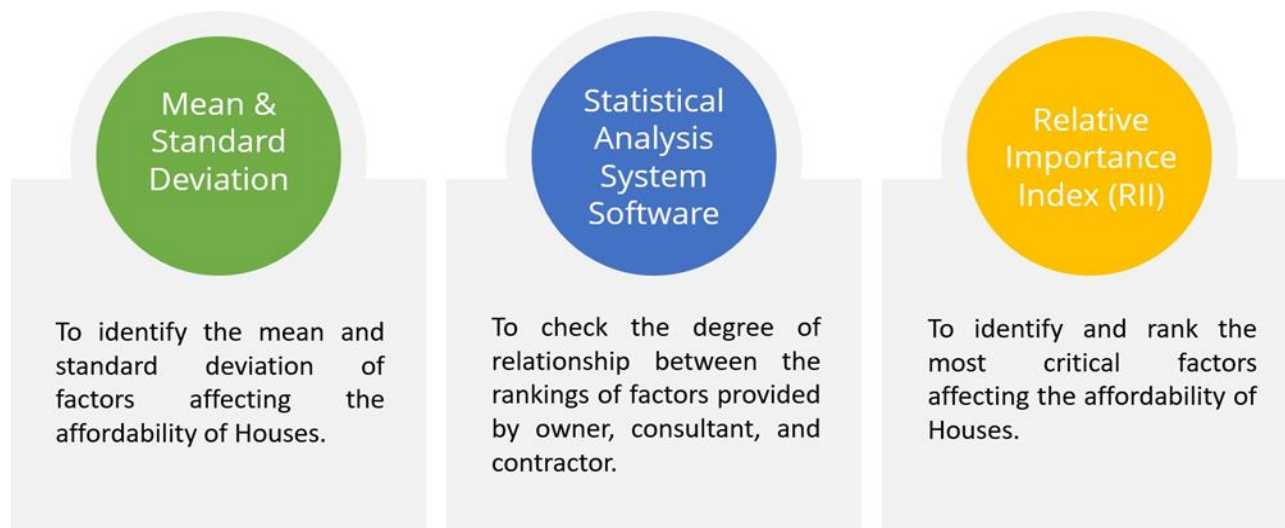
- **Construction Processes:** Focus on assessing construction methodologies, materials, and techniques impacting the affordability and quality of housing projects.
- **Regulatory Analysis:** Analyze the influence of government policies and regulations on project feasibility, cost-effectiveness, and execution timelines.
- **Project Management Efficiency:** Investigate project management methodologies, resource allocation, and scheduling approaches for their impact on housing affordability and timely delivery.

## II. METHODOLOGY

The present chapter elaborates the methodology of the study. To attain the objective of the study the below mentioned methodology has been adopted. The methodology of the study was shown in Fig 3.1.



The Relative Importance Index (RII) method is a statistical tool used in various fields, notably in research and project management, to determine the relative significance of multiple factors, attributes, or criteria. This method quantitatively assesses the importance or performance of elements based on their relative scores, offering a systematic approach for decision-making and analysis.



- SAS, which stands for Statistical Analysis System, is a software suite developed by SAS Institute for advanced analytics, business intelligence, data management, and predictive analytics.
- It provides a comprehensive set of tools for data manipulation, statistical analysis, and reporting.
- SAS software is widely used in various industries such as finance, healthcare, pharmaceuticals, and market research.
- It offers a user-friendly interface for data management tasks like data cleaning, transformation, and integration from various sources.
- SAS includes a vast array of statistical procedures for descriptive statistics, hypothesis testing, regression analysis, multivariate analysis, and time series analysis.
- The software also supports advanced analytics techniques such as data mining, machine learning, and predictive modeling.

SAS provides robust reporting and visualization capabilities, allowing users to create customizable reports, graphs, and dashboards to communicate insights effectively

This summary of findings has been taken by the all-over ranking of cost overrun factors, through

summarizing the top critical factors of cost overruns in the; construction of High- rise building projects.

Critical factors of cost overrun	Category	RII	Rank
The increase in the cost of construction materials has significantly contributed to the overall increase in the project costs.	Raw Material Cost, Material Management	0.76	1
The process of acquiring land for the project was transparent and well documented.	Land Acquisitions	0.74	2
Quality assurance efforts positively impacted overall project success.	Quality Assurance and Control	0.73	3
Stakeholders were adequately informed about the progress of land acquisition activities.	Stakeholder Engagement	0.74	4
Lessons learned from past quality issues were integrated into the current project.	Quality Assurance and Control	0.73	5
Project planning and management efforts aligned with the project's strategic goals.	Project Planning & Management	0.72	6
The project team had contingency plans specifically for construction-related delays.	Project Planning & Management	0.725	7
The project budget accurately reflected the necessary resources for success.	Budget Limitation, Resource Availability	0.722	8
Environmental regulations and standards were adhered to throughout the project.	Environmental Impact and Sustainability	0.721	9
Material quality standards were consistently met throughout the project.	Raw Material Cost, Material Management	0.72	10



## V. Results And Conclusions

### 5.1 Results:

#### ● Identification of Critical Factors Influencing Affordable Housing:

Employing the Relative Importance Index (RII) technique, the study extensively analyzed responses from the Telangana region, focusing on the case study of the "2BHK Dignity Housing Colony." The research identified ten critical factors influencing cost overruns in high-rise building construction, specifically addressing the unique context of Telangana. These factors include "Land Acquisition," "Labor Management," "Material Management," "Quality Assurance," "Resource Availability," and "Cost Management."

#### ● Correlation Analysis and SAS Analysis:

SAS Analysis was employed to delve into project management challenges hindering housing projects in Telangana. The correlation analysis revealed significant relationships in rankings provided by project owners, consultants, and contractors within the Telangana housing context. The study aligned its findings with the unique challenges faced in the Telangana state, emphasizing the local nuances impacting housing projects.

### 5.2 Conclusions:

**1. Identification of Critical Factors:** The study successfully achieved its objective of identifying critical factors influencing housing projects in Telangana. Factors such as "Land Acquisition," "Labor Management," "Material Management," "Quality Assurance," "Resource Availability," and "Cost Management" emerged as pivotal contributors to project challenges.

**2. Correlation Analysis and SAS Analysis within Telangana's Housing Context:** Aligning with the objective of analyzing project management challenges, the study used SAS Analysis to explore the unique context of housing projects in Telangana. The correlation analysis strengthened the understanding of relationships between project owners, consultants, and contractors, providing context-specific insights crucial for effective project management.

#### **3. Identification of Core Components and Expert Recommendations for Telangana Housing Initiatives:**

The study successfully identified core components and collected expert recommendations tailored to Telangana's housing projects. This accomplishment aligns with the objective of formulating project management strategies, providing practical insights for streamlining construction processes, optimizing resources, and adhering to project timelines in the state.

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