**RESEARCH PROPOSAL**

**Tiltle: Assessing Sustainable and Affordable Housing Strategies for Developing Countries**

1. **Introduction**

**Research Background**

In the present era, developing countries all over the world have been exposed to a problem of housing that has become a crisis since it cannot keep up with the ever-rising population growth and urbanization. The issue is worsened by environmental costs and economic implications that are major components of conventional building materials. The demand for sustainable low cost housing is very important due to climate change impact along with resource constraints. Therefore, Utilizing sustainable construction materials and innovative techniques can provide a viable solution to these global challenges.

**Problem Statement**

Low-cost housing schemes in developing countries often rely on traditional materials that are not economically viable or environmentally sustainable. There is a pressing need to identify and integrate low-cost, sustainable building materials and strategies to improve housing affordability and sustainability on a global scale.

1. **Aim and Objectives**

**Research Aim**

This research aims to improve housing in Developing countries by finding and suggesting better, cost-effective and sustainable materials and strategies that are best fit to local environment.

**Research Objectives**

1. To identify low cost and sustainable building materials and strategies as substitutes in existing housing schemes.
2. To conduct a comparative cost analysis of low cost sustainable materials and strategies with traditional construction practices.
3. To assess the comparative sustainability of conventional housing scheme with low cost housing alternative.
4. To suggest recommendations for construction of low-cost sustainable housing schemes in developing countries.
5. **RESERACH METHODOLOGY:**

**For Objective 1:**

* In the beginning, a comprehensive literature review will be done.
* Now, a list of identified sustainable construction materials and strategies will be compiled from a thorough literature review.
* Subsequently, qualitative interviews will be conducted with experts specializing in low-cost housing schemes.

**For Objective 2:**

* Begin with collection of detailed cost data from various sources like, literature review, market survey and interviews with industry professionals.
* Following this, an analysis and comparison of the cost of each material type with its substitute will be performed along with cost comparison of different strategies.

**For Objective 3:**

* At First, a thorough study of LEED credit point system will be done by reviewing it’s documentation, guidelines, and criteria.
* Secondly, a checklist of the specific LEED credit categories relevant to the construction projects under evaluation will be identified and compiled.
* Data on the ongoing schemes such as SPHF will be collected, and a comparison will be made between its LEED’s points and those of our proposed house with identified materials and strategies.
* Finally, the credibility of the assessment will be ensured by consulting with professionals possessing expertise in sustainable construction practices.

**For Objective 4:**

* First, findings from the identification of materials and strategies, cost analysis, and sustainability evaluation will be analyzed.
* Then, research findings will be discussed with experts to explore potential changes and improvements.
* Finally, based on the comprehensive analysis and expert’s input, practical and actionable recommendations will be formulated for integrating sustainable materials and practices into low-cost housing schemes.

### ****4- Research Scope, Significance, and Expected Outcomes****

**Research Scope**

The research will address material and strategy identification, cost analysis, sustainability assessment, and recommendations for low-cost housing in developing countries. This will be done through field studies and focus group discussions; lab testing data is excluded.

**Research Significance**

* Improve economic feasibility and environmental impact of housing projects globally.
* Provide insights into cost-effective sustainable materials and practices.
* Guide stakeholders on the financial implications of sustainable construction.
* Enhance the sustainability and efficiency of low-cost housing schemes using the LEED credit point system and other frameworks.

**Expected Outcomes**

* A comprehensive list of sustainable materials and strategies suitable for various developing regions.
* Detailed cost comparison of conventional and sustainable materials.
* Assessment of sustainability using LEED credit categories and other relevant frameworks.
* Practical recommendations for sustainable, low-cost housing construction in developing countries.