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Kerala's Vacant Houses: Exploring Sustainable Finance Solutions and the Role of SDGs in Housing Investment

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ABSTRACT

Kerala faces a paradox in sustainable housing finance and investment. The increasing number of vacant homes, due to youth migration abroad, presents significant environmental, economic, and social challenges. These properties, once heritage symbols, now lead to resource wastage, energy inefficiency, inflated real estate prices, and weakened community bonds. Simultaneously, there is a demand for housing, especially for young professionals moving from rural areas for job opportunities. To address these issues, this article delves into UN-aligned sustainable development goal-related sustainable finance and investment alternatives. The study will analyze Kerala's vacant housing crisis and the potential of sustainable finance to mitigate this issue, demonstrating how housing investments aligned with SDGs can drive economic growth, reduce inequalities, and support environmental sustainability. It will propose policy recommendations for the government, financial institutions, and real estate developers to encourage community-centered housing solutions that prioritize long-term sustainability and social well-being.

Keywords: Vacant houses, sustainable finance, SDG,

Introduction

Houses serve as more than just a place to sleep; they also give security, a sense of identity, a place to call home, social ties, and emotional fulfillment in addition to providing physical shelter and financial stability. Along with the right to live in safety, peace, and dignity, the United Nations Committee on Social and Cultural Rights has acknowledged the right to sufficient housing. The goal of "housing for all" has been pursued by the federal and state governments of India via various measures.

Kerala, a state in southern India, faces a compelling paradox in the realm of sustainable housing finance and investment. On one hand, the region grapples with a rising number of vacant homes, largely attributed to youth migration abroad (King et al., 2017). These unutilized properties, once symbols of heritage and pride, now pose significant environmental, economic, and social challenges. Conversely, there exists a pressing need for accessible and energy-

efficient housing, particularly for young professionals relocating from rural areas in search of employment opportunities. (Im, 2015) (Jamaludin et al., 2018)

There is a complicated difficulty at the intersection of sustainable development, housing finance, and the United Nations Sustainable Development Goals with the issue of abandoned homes in Kerala, India. Kerala, a state known for its progressive policies and high human development index, has grappled with a significant number of unoccupied homes, which are estimated to account for nearly 1.1 million units, or 15% of the total housing stock. (Atta et al., 2021) This phenomenon raises important questions about the role of sustainable finance and the role of the Sustainable Development Goals in addressing the housing crisis and promoting equitable, affordable, and sustainable living conditions.

One of the key factors contributing to Kerala's vacant housing crisis is the mismatch between the available housing stock and the requirements of locals. While the state has witnessed rapid urbanization and population growth, the development of affordable housing has not kept pace, leading to a shortage of suitable and accessible dwellings. As part of its emphasis on "sustainable cities and communities," Sustainable Development Goal 11 stresses the need of making sure everyone can afford a decent place to live. In line with the wider goals of SDG 11, Kerala may achieve more affordable and inclusive housing by tackling the problem of unoccupied properties.

The issue of unoccupied homes in Kerala may be greatly improved with sustainable financing solutions that take into account environmental, social, and governance factors. (Ebekozien et al., 2020) Harnessing the power of land value capture mechanisms, such as those proposed in the literature, can generate much-needed resources to invest in affordable housing development. Furthermore, exploring innovative financing models, including public-private partnerships and community-driven initiatives, can help mobilize the necessary funds to rehabilitate and repurpose vacant properties, making them accessible to those in need.

The Sustainable Development Goals, as a comprehensive framework for global development, offer a promising avenue to guide and evaluate the implementation of sustainable finance solutions in Kerala's housing sector. Aligning housing policies and investment strategies with the SDGs can ensure that the progress made in addressing vacant houses contributes to the broader objectives of social, economic, and environmental sustainability (Acquaye & Asiama, 1986) (Im, 2015) (Nzau & Trillo, 2019).

Review of Literature

The issue of vacant houses in Kerala, India, has garnered significant attention in recent years, with researchers and policymakers exploring sustainable solutions to address this pressing concern. One key aspect of this challenge is the need for innovative financing models that can enable the creation of affordable and sustainable housing options. (Abidin et al., 2013) (Ebekozien et al., 2020)

Existing literature highlights several relevant considerations in this domain. The book "Confronting the Urban Housing Crisis in the Global South: Adequate, Secure, and Affordable Housing" highlights the interconnectedness of housing with other developmental concerns like livelihoods and inclusivity, and stresses the significance of tackling the three main concerns of adequate, secure, and affordable housing. (King et al., 2017). Similarly, the Sustainability of

Urban Affordable Housing in Malaysia study underscores the need to ensure social, economic, and environmental sustainability in housing initiatives, noting the challenges posed by rising land and construction costs, as well as the prevalence of property speculation (Im, 2015).

Since housing construction plans often put affordability ahead of sustainable practices, the problem of integrating affordable and sustainable housing in Malaysia is an additional reminder of the necessity to strike a balance between the two (Jamaludin et al., 2018). A mismatch between affordable and sustainable housing construction plans occurs in Malaysia because developers prioritize profitability above environmental practices, according to the literature. (Jamaludin et al., 2018).

In the context of Kerala, the Exploring Housing Governance in Malaysia study provides valuable insights, as it highlights the need for improved governance and coordination in the affordable housing sector. The study identifies various factors, including financial, policy, administrative, and knowledge-related barriers, that constrain the delivery of affordable housing.

Several mechanisms can be leveraged to drive sustainable housing solutions. (In 2020, the Housing Fund Program for the Poor in Bangladesh Played an Important Role in Working Towards Sustainable Development.) showcases the "Grihayan Tahobil Program" in Bangladesh, demonstrating how government housing loan programs can contribute to sustainable development goals

Conceptual Model

The issue of vacant houses in Kerala, India, presents a complex challenge that intersects with several Sustainable Development Goals and the broader pursuit of environmental sustainability. This paper aims to establish a conceptual model that elucidates the interconnections between vacant houses, SDG 8, SDG 9, SDG 11, SDG 12, sustainable financing, government policies, and stakeholder participation**.**

Kerala, a state renowned for its progressive social policies and environmental consciousness, has grappled with the presence of a significant number of vacant houses. (King et al., 2017) While the reasons for this phenomenon are multifaceted, the underutilization of these residential properties represents a missed opportunity to address critical issues related to housing, economic development, and environmental protection.

There is a direct correlation between the number of unoccupied homes in Kerala and the progress made toward several UN Sustainable Development Goals. Specifically, SDG 8, SDG 9, SDG 11, and SDG 12 (KANAZASHI et al., 2019) (King et al., 2017) are central to understanding the implications and potential solutions surrounding this issue.

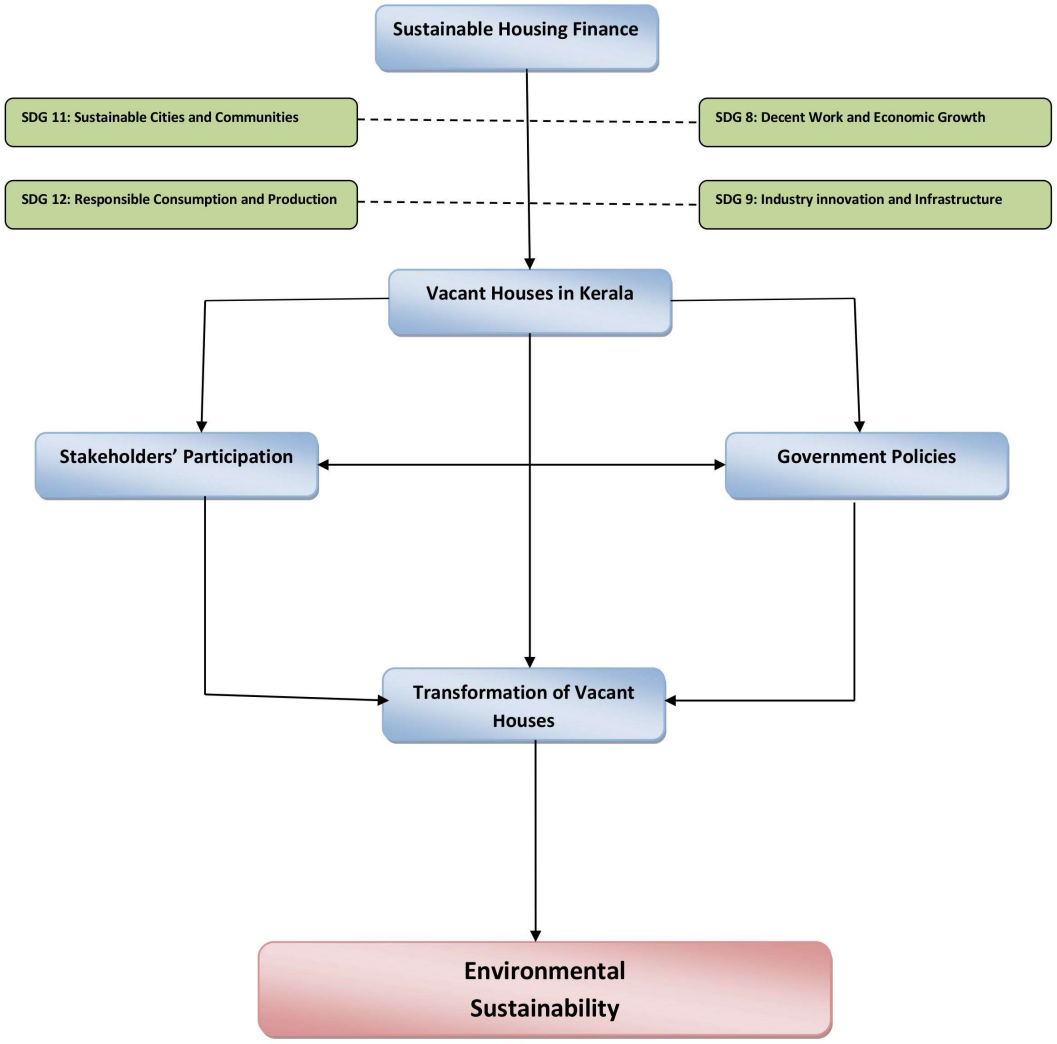

Fig 1.1– Conceptual Model of the research paper

SDG 8, which focuses on decent work and economic growth, is affected as vacant houses represent underutilized assets that could potentially contribute to local economic development if properly managed or repurposed. These properties could be transformed into productive spaces, creating employment opportunities and stimulating economic activity in the region. Similarly, SDG 9, which emphasizes industry, innovation, and infrastructure, is relevant as the presence of vacant houses indicates a need for improved urban planning and infrastructure development to better align housing supply with demand. SDG 11, which aims to create sustainable cities and communities, is particularly pertinent to the issue of vacant houses in Kerala. The abundance of unoccupied properties raises questions about urban sprawl, efficient land use, and the overall sustainability of urban development patterns. Addressing this issue could lead to more compact, resource-efficient cities and improved quality of life for residents. Additionally, SDG 12, which promotes responsible consumption and production, is connected to the vacant house phenomenon as it highlights the need for more sustainable approaches to housing construction and utilization. Repurposing or efficiently managing these vacant properties could reduce the demand for new construction, thereby conserving resources and

minimizing environmental impact. Tackling the issue of vacant houses in Kerala thus presents an opportunity to make progress on multiple SDGs simultaneously, fostering a more sustainable and equitable urban environment.

Kerala's Housing Sector

Kerala has the highest human development index score of any Indian state in many categories. (Human Development Report Kerala (2005)). When compared to the rest of India, Kerala has much higher average quality and housing standards. As the 1970s came to a close, the state's housing market began to grow. (Gopikuttan. G,1990). Affluent and influential rural and urban households built large residences disproportionate to their requirements. Furthermore, numerous households possess multiple residential properties. It is estimated that between 1 to 1.5 million houses are vacant in Kerala. The majority of these belong to upper-middle-class and wealthy families. Conversely, despite proactive state intervention, the economically disadvantaged segments of society have not been able to attain their housing dreams.

Housing stock and quality

During the last 30 years, the increase in Kerala's housing stock has outpaced the rise in the population by a substantial margin. While the population grew by 9.42% between 1991 and 2001, the number of housing units rose by almost 17% in the next decade, even though the population grew by just 4.86% (Government of Kerala, 2016). Since 2010–2011, the state's rural regions have seen a net annual increase to the housing stock of around 250,000 units.

Table 1.1

Total number of residential buildings newly constructed in rural Kerala during 2010-11 to 2019-20

Sl. No	Year	No. of newly constructed residential buildings in rural Kerala
1	2010-11	253928
2	2011-12	266537
3	2012-13	272227
4	2013-14	247441
5	2014-15	241618
6	2015-16	224739
7	2016-17	234908
8	2017-18	223018
9	2018-19	253407
10	2019-20	271172

Source: Department of Economics and Statistics, Govt of Kerala

Housing in Kerala is of better quality than the national average by every measure. Kerala has 336 dwellings per 1000 people in the 2011 housing census, compared to 273 such dwellings in the whole country. Nearly 75% of Keralan homes are located in decent-quality dwellings, according to NSS Report No. 584. Also, according to NSS Report No. 584, 88.4% of Keralan housing units had a Pucca construction during the reference period (2018), whereas a pitiful 0.3% of all families had a Kutcha structure. Nonetheless, many of the state's poor do not have a safe place to live or even a home at all (Kannan K P and Imran Khan, 2016).

Ecosystem collapse is imminent in the state as a result of excessive use of both renewable and non-renewable resources, which has outpaced their ability to regenerate (PDNA Report 2018). The disparity between supply and demand has also made land, wages, and construction materials out of reach for low-income people (Harilal K N and Mathew Andrews, 2006). Major shifts have also occurred in people's tastes and outlooks. Community involvement in home construction, which has been around for a long time, has become utopian. According to Hilal K. N. and Mathew Andrews (2006), traditional vocations like carpentry are becoming less important. Traditional building techniques and materials have given way to modern ones, which are foreign to the local communities. Households that receive financial support for housing from the government are unable to complete their houses and may plan for expensive renovation, ending them in debt traps (Gopikuttan G,2006).

There is a significant disparity in the severity of the housing crisis across the state (GOK, 2016). Houseless and landless families are more prevalent in the Coastal South and Eastern South regions of Kerala. ((GOK, 2016).

Migrant workers have arrived in Kerala in large numbers within the last 20 years. In 2021, 37,307 foreign workers were documented in Kerala by the labor department. There are more migrants in the Ernakulam district (57652) than in Kozhikode (53203). The bulk of these employees work in service industries, including construction, hair salons, restaurants, and retail. They do not currently have enough lodging options. Assuring a healthy and dignified existence for them requires providing them with reasonable rental housing.

Due to the growing number of seniors in Kerala, it is important to promote well-thought-out housing solutions that guarantee a high standard of living in old age.

Kerala clearly has a gender gap when it comes to property ownership. State Department of Economics and Statistics statistics (2019–20) shows that men control more than 70% of private properties. Residential buildings make up 337325 (or 77.7%) of the total 433999 structures. It is advisable to give a more prominent role to women in housing right from planning to construction.

The Paradox of Vacant Houses, New Constructions and Shortage of Rental Houses in Kerala

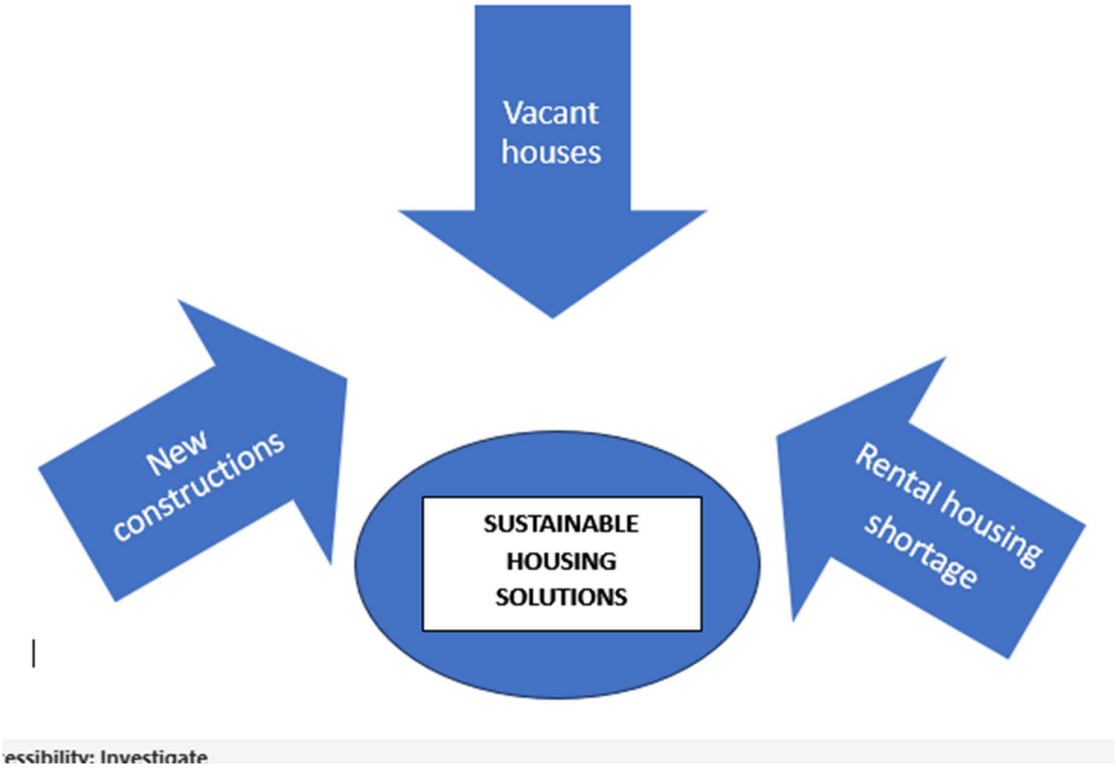

Fig 1.2 – The three major issues in Kerala's housing sector

Vacant Houses in Kerala

As per the 2011 Census, 10. 6% of Kerala houses were vacant. The status of vacant houses in Kerala is as follows:

- Over 1.1 million vacant houses in Kerala: This substantial number highlights the extent of the issue.
- 11.36% of total housing stock vacant: More than one in ten houses in the state were unoccupied.
- Higher vacancy rates in urban areas compared to rural areas: Urban centers tend to have a larger proportion of vacant properties, possibly due to speculative investments and migration patterns.
- Reasons for vacancy include owners working abroad, properties held as investments, and houses left vacant by elderly residents who have moved in with their children.

New Constructions in Kerala

Natural and manufactured building resources are in low supply in Kerala, India, and the industry's use of energy-intensive, ecologically harmful materials has long been a problem. This has had a worrying effect on the state's delicate ecosystem. (Abeydeera et al., 2019). To address these pressing issues, sustainability principles must be integrated into the material selection and construction processes.

The construction industry is widely recognized as a major contributor to global environmental degradation, with activities such as raw material processing, transportation, and building installation consuming a significant amount of energy and natural resources. (Linglin, 2024) The environmental damage is already bad enough, and as buildings reach the end of their useful

lives, they are demolished and disposed of. In order to lessen these effects, the building industry can satisfy the need for raw materials while simultaneously reducing its environmental impact by switching to more sustainable and recycled materials.

Sustainable construction techniques must be promoted, especially in the context of Kerala's building industry, which is dominated by energy-intensive and ecologically harmful materials manufactured in factories. A transition to more sustainable building practices is urgently required since the state's delicate ecology and environment are under grave danger from the careless and excessive use of limited resources and materials. (Mohamed et al., 2022), (Chukwu et al., 2019)(Gillani et al., 2023), (Linglin, 2024).

A multi-faceted strategy is required to accomplish this. To begin dispelling the stereotype that sustainable building is exclusively for the poor, it is essential to encourage mainstream society, especially the upper and middle classes, along with public institutions and the government, to choose eco-friendly and cost-effective construction methods.

Sustainable building methods are becoming more important, and habitat literacy programs may help get the word out about them. (Mohamed et al., 2022) (Linglin, 2024) (Singh & Gupta, 2021) (Chukwu et al., 2019)

The adoption of green building materials and low-technology methods can lead to a more sustainable and affordable construction industry, while also adhering to the comfort standards required in modern buildings. (Singh, 2018)

In order to combat issues like resource scarcity, environmental degradation, and rising construction costs, Kerala's building sector has to adopt a more comprehensive strategy for sustainability.

In order to maintain its delicate ecosystem for future generations, the state may lead the way toward a more sustainable future by encouraging the use of environmentally friendly building methods and materials.

Shortage of Rental housing

Rental housing plays a crucial role in accommodating diverse populations, including migrants, individuals with transferable jobs, and students. Temporary housing like this offers not just the physical and social infrastructure needed, but also the much-needed refuge. The demand for rental accommodation varies across different income groups, necessitating a range of affordable options. There is a greater demand for rental choices in both urban and rural locations, even though it is often the duty of employers, contractors, and Local Self-Governments (LSGs) to provide accommodation for migratory workers. Despite the availability of vacant or unoccupied houses and flats throughout Kerala, property owners are often hesitant to rent out their spaces due to concerns about potential future complications. This reluctance highlights the need for comprehensive regulations that protect the interests of both landlords and tenants. We need new rent control laws or amendments to the old ones, maybe based on the one that the Indian government's Ministry of Urban Development has suggested. Such reforms could encourage property owners to participate in the rental market more actively. Furthermore, there is a need to incentivize investors to develop rental housing, particularly in urban areas. Additionally, the provision of night shelters in major cities and towns is essential to accommodate transient populations and others in need of temporary housing. Addressing these various aspects of rental housing is crucial for creating a more inclusive and accessible housing market that caters to the diverse needs of the population.

Sustainable Financing Approach to Vacant Houses in Kerala and Beyond

The rise in vacant homes in Kerala is primarily driven by demographic shifts and economic migration. As young individuals leave for better opportunities, the homes they leave behind often deteriorate, leading to resource wastage and energy inefficiency (Anish et al., 2011). This situation exacerbates the housing crisis, as the demand for affordable housing continues to rise, particularly for young professionals relocating from rural areas (Sportel & Véron, 2016). The economic implications are significant; inflated real estate prices driven by speculation can hinder access to housing for lower-income families and young professionals (Ravindran, 2023). Furthermore, the environmental impact of vacant homes, including increased energy consumption and resource depletion, underscores the urgent need for sustainable solutions (Notermans et al., 2016).

Globally, countries have employed various strategies to manage vacant houses through sustainable financing. In Malaysia, for instance, the affordable housing sector has undergone significant transformations, shifting from social housing for the poorer segments of society to addressing the housing woes of the urban middle class. (Im, 2015) The rise in urban land prices and construction costs, coupled with speculative activities, has resulted in housing that is largely unaffordable, even for the middle-income population. To address this challenge, the public and private sectors in Malaysia have introduced various intermediate financing mechanisms to ensure the sustainability of affordable housing.

Efficient Utilization of Vacant Housing Units: A comparison among different countries

Vacant homes are a major problem in many cities, especially for the increasingly large populations of people from lower socioeconomic backgrounds who cannot afford to buy a home. In order to make the most of what we have, we need to go beyond the conventional wisdom about housing construction, which has often ignored the needs of these marginalized communities. (Sujith et al., 2021)

One potential solution lies in the effective management of vacant housing units. Surveys have revealed that the condition of these buildings and the complexity of landholding relationships have hindered their efficient use. However, local governments should be empowered to identify and facilitate the utilization of these vacant properties for the benefit of those in need. Leasing out empty units for rent according to market demand, selling them to new homeowners at fair prices, or transforming them into "smart homes," office buildings, playschools, small businesses, service apartments, or homestays are all viable options. (KANAZASHI et al., 2019).

Table 1. 2 -Policy responses to vacant housing in different countries

City / Country	Problem	Policy Response	Impact
Washington DC, USA	15% vacancy rate (2010)	Policy type: Tax • Five percent of the assessed value is levied on vacant properties.	In 2011, the vacancy rate dropped to 10% and is now 9.7% in 2019.

Vancouver, Canada	8.2% (2016)	• Tax and related services policy type. • There is a 1% tax on the assessed value of properties that are self-declared empty. • Random audits of declarations. • Allied renter's service and social and cooperative housing.	• Explicit compliance was high in 2018 at 95%. • There were occupants in 47% of the residences that were unoccupied in 2017. • In 2017 and 2018, we were able to raise around $39.5 million. • Just 22% of the 33.6 million CAD received in 2017 were used in 2018.
Oakland, USA	8.6% (2018), 7.8% (2019)	Policy type : Tax (Nov, 2018) • Six thousand dollars on unoccupied residential and non-residential properties. • Invest $3000 in an apartment or duplex that is unoccupied for more than half a year.	Unknown
France	Around 8% (1997)	Policy Type: Tax • 12.5%-25% of rental value, dependenton years of vacancy.	Decrease of 13% in vacancy rates from 1997 to 2007
Egypt	27% (2016)	Policy Type: Regulatory Reform (1996) • Rent control that is too stringent should be eliminated. • The duration of older rent-controlled leases was extended.	Minimal

Source – CSEP Working Paper "India's housing paradox: Empty houses and housing shortages"

Strategies for Sustainable Utilization of Vacant Houses

One key approach is to implement policies that incentivize property owners to rent out their vacant houses (Nzau & Trillo, 2019). This could include tax breaks or other financial benefits for those who make their vacant properties available for rent (King et al., 2017). Developing affordable rental housing schemes, either through government initiatives or private sector collaborations, is another viable option to convert vacant properties into affordable units for low-income families. (Andreasen, 1996)

Exploring public-private partnerships to renovate and repurpose vacant houses can also be an effective strategy. Government agencies can work with private developers to refurbish and repurpose these properties for productive use, such as providing affordable housing or repurposing them as community facilities (Im, 2015) (Acquaye & Asiama, 1986) (Nzau & Trillo, 2019).

Furthermore, the establishment of community land trusts can be an effective way to manage and allocate vacant properties. These non-profit organizations can acquire and manage vacant properties to ensure their productive use for the benefit of the community.

In addition to these strategies, creating a comprehensive database of vacant houses can aid in planning and implementing targeted solutions. Tax incentives or penalties to discourage long-term vacancy can also motivate property owners to either occupy or rent out their vacant houses.

Sustainable financing models for retrofitting vacant houses to improve energy efficiency and overall sustainability can contribute to both environmental and social goals.

Suggestions and Conclusion

To create an inclusive and sustainable housing landscape, a multifaceted approach is necessary to address the diverse needs and challenges faced by various socioeconomic groups. Firstly, it is crucial to discourage the richer sections from the extravagant use of scarce natural resources through suitable fiscal measures (Liu et al., 2020). Houses developed by higher-income groups may meet their professional, functional, and other demands without wasting space in the built-up spaces, fittings, or finishes. (Rietz et al., 2020). Secondly, it is essential to support the economically weaker sections of society to own houses through fiscal incentives and appropriate credit mechanisms. This can help bridge the gap in housing affordability and ensure that all segments of the population have access to decent living conditions. Thirdly, the opportunity for change should be made more accessible to families from economically and socially disadvantaged backgrounds. This approach not only addresses the immediate housing needs but also allows for the gradual enhancement of living spaces, fostering a sense of ownership and empowerment among the residents. Reducing the need for new building is possible via encouraging a maintenance-first mentality. Im (2015), Tofiluk (2021), Richter et al. (2020), Khan and Fang (2020), and others have argued that existing homes should be renovated or retrofitted wherever feasible in order to increase their longevity. Lastly, it is very essential to ensure that the most impoverished people—those without land, those without homes, and those who labor on plantations—have access to sufficient accommodation via rental units, cluster houses, group housing, and housing complexes.

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