

# Balancing Expert Vision and Public Desire: Reimagining Public Open Space for Lammual, Aizawl

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**Abstract**—This study delves into the complexities of urban planning in Lammual, Mizoram, by analyzing public and expert perspectives on public spaces and sustainable development. Our focus is on the often-divergent viewpoints on issues like traffic management, infrastructure needs, and the critical role of recreational spaces. A survey was conducted encompassing a diverse range of participants, including architects, engineers, urban planners, economists, and residents. Employing both open-ended and closed-ended questions, the survey gathers nuanced insights into land-use preferences, potential development options, and the unique needs of the community. The result reveal significant disparities between public opinion, which often reflects immediate concerns and desires, and the perspectives of experts who emphasize broader considerations of sustainability, inclusivity, and long-term urban development. Synthesizing these findings will provide valuable insights for policymakers, urban planners, and community stakeholders as they strive to create vibrant, inclusive, and most importantly, sustainable urban environments for Lammual and beyond.

**Keywords:** Public open spaces, Land use, Expert opinion, public participation.

## INTRODUCTION

Streets and public places shape the character of a city. Public space shapes the appearance of a city, from squares and boulevards to community gardens and playgrounds for children. The network of open public space improves not only the quality of life but also the city's mobility and functionality. Well-designed and maintained streets and open public spaces can help reduce crime and violence, create space for formal and informal economic activities, and provide services and opportunities to a diverse range

of users, particularly the most marginalised, for whom public space is 'the poor man's living room' and essential for recreation, social, cultural, and economic development.

Urban development is a multifaceted process that encompasses various dimensions, including social, environmental, and economic factors. At the heart of this process lies the creation and management of public spaces, which play a crucial role in fostering community well-being, promoting social interaction, and enhancing urban

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liveability. This literature review examines the benefits of well-designed and well-maintained public spaces, highlighting their contributions to social cohesion, physical and mental health, environmental sustainability, and economic prosperity. Drawing insights from diverse sources, including research studies, expert opinions, and case studies, this review provides a comprehensive understanding of the factors that contribute to high-quality public open spaces and the concept of publicness within urban environments. Through a case study on Lammual, we explore the divergent perspectives of the public and experts on urban development, shedding light on the complexities and challenges inherent in urban planning processes. By synthesizing these insights, this study seeks to inform policymakers, urban planners, and community stakeholders in their efforts to create vibrant, inclusive, and sustainable cities.

Public areas that can be used for physical and recreational activities, such as education and learning, benefit people's health and well-being. Public spaces that encourage active use benefit children and young people's physical activity as well as the sustainability of family life, particularly in green open areas. Public spaces should be viewed as chances for citizens to increase their access to the natural environment, so increasing their well-being. Parks and green spaces improve air quality while also providing residents with relaxation and leisure opportunities. Public spaces can also promote well-being and health by providing a network of public space that facilitates non-motorized transportation, such as walking and cycling. Public spaces with natural forested regions inside the urban landscape offer chances to encourage users to be more active, resulting in healthier communities (United Cities and Local Government, 2016).

Public spaces are the cornerstones of thriving communities, offering a wealth of benefits. They act as social hubs, bringing people together for interaction and community building. Events, festivals, and celebrations held in these spaces foster a sense of belonging and *gemeinschaft*, the German word for community spirit. Public spaces are also instrumental in promoting physical and mental health. They provide opportunities for physical activity through walking, jogging, and cycling, while green spaces with trees and nature have been shown to reduce stress, improve mental well-being, and enhance overall quality of life. Well-designed public spaces even contribute to a more sustainable environment. The presence of trees and plants helps purify the air and manage stormwater runoff, while also providing habitat for wildlife (UN Habitat, 2018).

Economically, public spaces can act as catalysts for growth. Attractive and well-designed spaces draw visitors, tourists, and businesses, leading to a more vibrant local economy. Businesses like cafes, restaurants, and shops flourish around these spaces, and property values in surrounding areas tend to rise, attracting further investment. Public spaces can also serve as platforms for cultural expression, showcasing the local talent and diversity through art installations, performances, exhibitions, concerts, and even outdoor film screenings.

However, creating high-quality public spaces goes beyond just aesthetics. Usability is a key factor. A truly successful space should be accessible to everyone, regardless of social background. It should reflect the local culture and offer a variety of activities that cater to a wide range of needs and preferences (Nasution & Zahrah, 2014). Function also plays a critical role. The space should serve the community's needs by providing opportunities for social interaction, recreation, and economic activity, fostering a sense of shared purpose.

The physical features and design of a public space also significantly impact its quality. Easy access through clear pedestrian linkages and integration with public transportation is crucial. The presence of trees, gardens, and a well-designed layout with appealing aesthetics all contribute to a space's usability and overall enjoyment. Regular maintenance is essential to ensure the space remains clean, safe, and the amenities function properly. Community involvement is a powerful tool in creating successful public spaces. When residents are involved in the planning and management process, the space is more likely to reflect their needs and preferences. This fosters a sense of ownership and responsibility, leading to a more vibrant and well-used public space (Nasution & Zahrah, 2014).

Publicness in public spaces is a multifaceted concept that goes beyond just physical accessibility. It's a complex idea influenced by historical, social, and cultural factors. Publicness encompasses aspects like accessibility for everyone, a sense of welcome and safety, and the embrace of diversity to accommodate a variety of people and activities. Effective management that considers rights of access, use, and control is also crucial for ensuring publicness remains intact (Li, 2022).

### CHALLENGES OF PUBLIC SPACES IN HILL TOWNS OF INDIA

Hill towns in India face unique challenges in the development and management of public spaces due to their topography,

fragile ecosystems, and rapid urbanization. Limited flat land, steep slopes, and environmental sensitivity make it difficult to create and maintain public spaces that are accessible, safe, and sustainable. As urban growth accelerates, overcrowding in these areas leads to overburdened infrastructure and unplanned development, further straining existing public spaces (Shekhar, 2018)(Dame *et al.*, 2019). Public spaces in hill towns are often poorly planned and maintained, with insufficient green areas, pedestrian walkways, and recreational facilities. This can contribute to environmental degradation, such as deforestation, soil erosion, and disruption of natural drainage patterns.

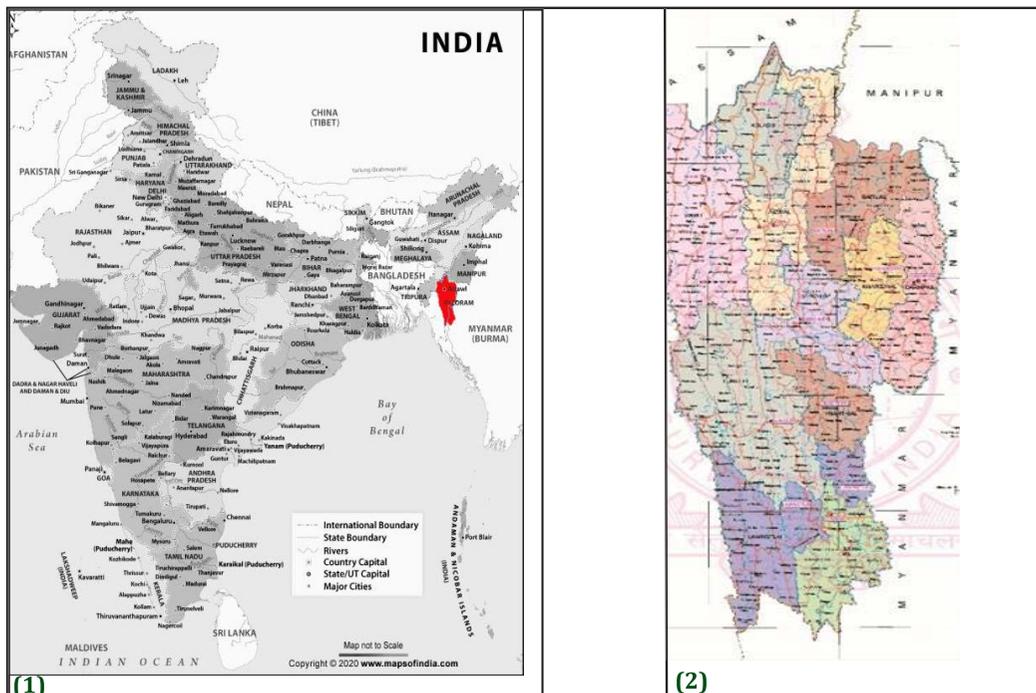
The fragile ecology and susceptibility to natural hazards, like landslides and flash floods, further complicate the development of resilient public spaces. In many cases, public spaces are neglected in favor of residential and commercial developments, leading to a lack of community areas that promote social interaction and cultural activities (Sharma *et al.*, 2024). Furthermore, public spaces in hill towns often lack inclusive design, limiting accessibility for the elderly, disabled, and children, due to steep terrain and inadequate infrastructure.

Public spaces in these towns are also vulnerable to environmental pollution, including air and water contamination, as well as the loss of biodiversity caused by unregulated development and tourism (Kaur & Garg, 2023). Inadequate planning and weak governance further exacerbate these issues. Small hill towns often struggle with limited economic resources, which impacts their ability to invest in sustainable, well-maintained public spaces that meet the needs of local communities (Shekhar, 2018).

Building regulations in hill towns are often outdated or insufficient to address the specific challenges posed by their unique landscapes. This leads to safety concerns in public spaces, with inadequate provisions for slope stability and environmental protection (Kumar, 2016). Aizawl Municipal Corporation (AMC) has introduced a slope modification clause to ensure safe construction, but enforcement remains difficult, which also affects the creation of stable public spaces (Aizawl Municipal Corporation, 2017). To promote sustainability, hill towns need a holistic approach to urban planning, emphasizing the development of safe, accessible, and environmentally sensitive public spaces that enhance quality of life for residents.

## MATERIALS AND METHODS

This section describes the role of Lammual in the society and overall planning of the city.



**Fig. 1: Map of India showing Mizoram (Source: <https://www.mapsofindia.com>)**

**Fig. 2: Map of Mizoram showing Aizawl (Source: <https://surveyofindia.gov.in>)**

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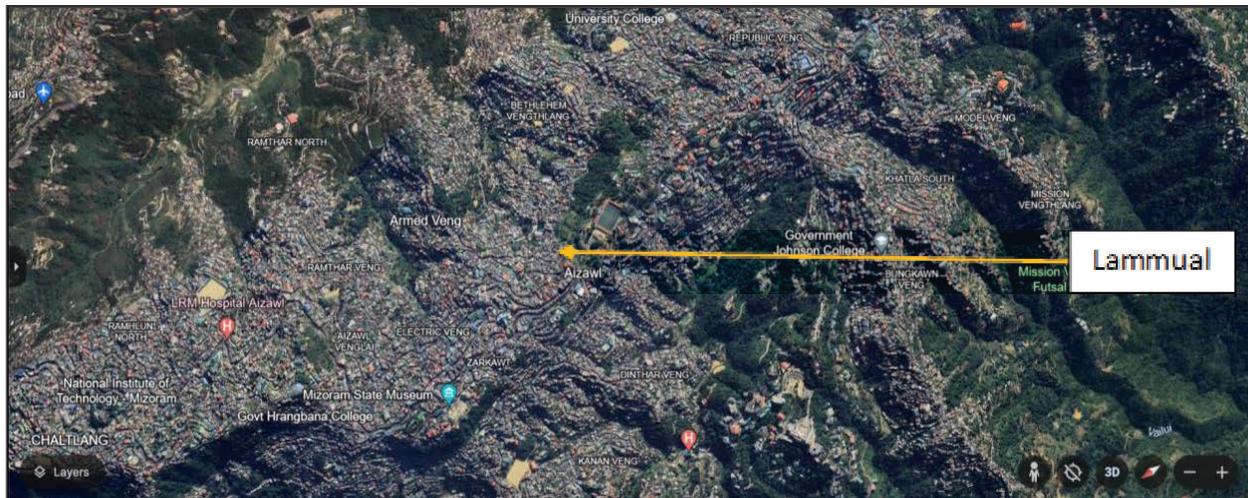


Fig. 3: Aerial View of Aizawl City (Source: Google Earth as accessed on 21/06/2024)

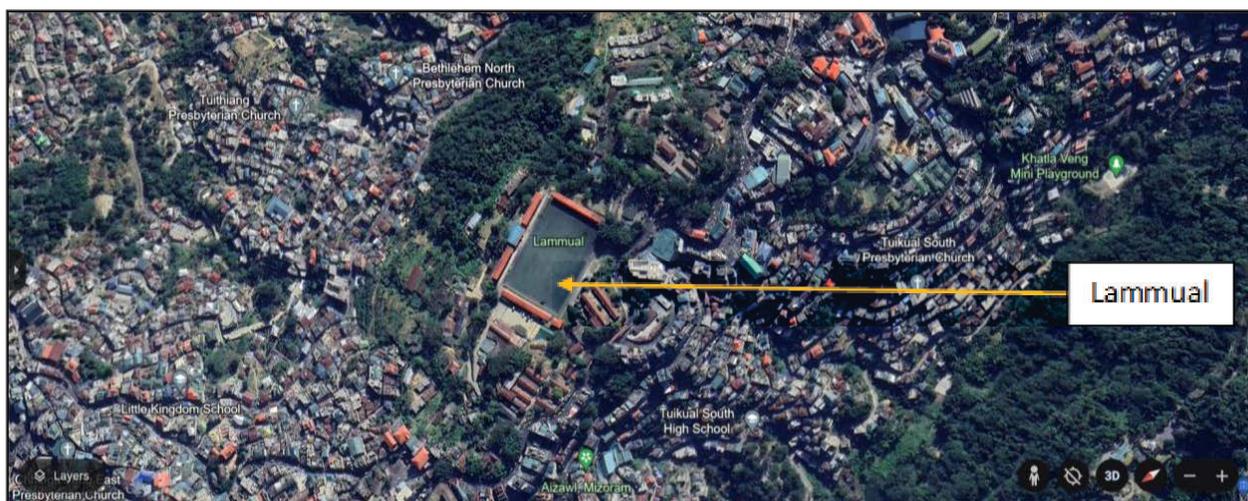


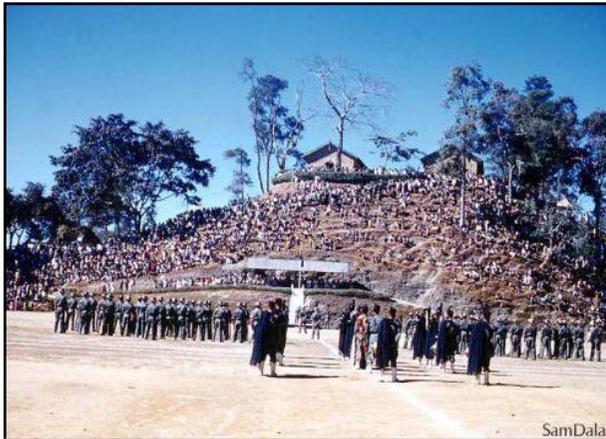
Fig. 4: Lammual Stadium and Surroundings (Source: Google Earth as accessed on 21/06/2024)

### STUDY AREA

Lammual, most commonly known as Lammual Stadium, is more than just a sporting arena in Aizawl, Mizoram. Aizawl is the capital city of the State of Mizoram which is located in the N-E part of India as shown in Figure 1 and Figure 2. Located in the heart of the city (Figure 3 and Figure 4).

Lammual transcends its function as a football pitch to become a vital center for Aizawl's social fabric. Lammual's central position makes it easily accessible to a large portion of Aizawl's residents. This accessibility fosters a sense of community, allowing people from various neighbourhoods to converge for events and activities. Lammual plays

host to a multitude of social events beyond just football matches. The stadium serves as the venue for the vibrant Chapchar Kut festival, a major celebration of Mizo culture. Political rallies, public addresses by dignitaries, and other social gatherings frequently utilize the space, solidifying Lammual's role as a central stage for Aizawl's social life. The historical significance of Lammual further strengthens its social impact. The stadium witnessed the landing of the first helicopter in Mizoram in 1962, a landmark event marking the region's progress. Additionally, Lammual served as a platform for leaders like Jawaharlal Nehru to address the Mizo people in 1965, fostering a sense of national connection.



**Fig. 5: Republic Day Celebration**  
(Source: Mizoram Tourism)

## IMPORTANCE OF LAMMUAL IN TOWN PLANNING

### CENTER OF THE CITY

The principal arterial thoroughfare of Aizawl extends longitudinally from east to west, with the Lammual precinct positioned centrally, serving as a pivotal nexus between Aizawl's eastern and western sectors. This strategic placement renders Lammual a focal point for vehicular and pedestrian transit, exerting a significant influence on the overall traffic dynamics of the city.



**Fig. 6: Chapchar Kut Celebration**  
(Source: Mizoram Tourism)

Despite its development, Lammual lacks a distinct classification, as it neither qualifies as a commercial, recreational, nor residential zone. Surrounding Lammual

are residential quarters to its east and west, commercial establishments to its north, and administrative facilities to its south. Consequently, Lammual remains devoid of a definitive identity, and any designation as commercial, recreational, residential, or administrative would not only redefine Lammual's character but also impact Aizawl's urban fabric. Given its strategic positioning and vast expanses of undeveloped land, Lammual holds the potential to either catalyse or hinder the city's progress.

### LUNGS OF THE CITY

Lammual stands as the solitary significant parcel of vacant land within the urban core, boasting a rich vegetation cover, earning it the moniker of the city's "lungs." Drawing parallels from international studies, such as those conducted in the United States, where urban forests have been shown to reduce building energy consumption by 7.2%, translating to an annual reduction of 43.8 million tonnes of CO2 emissions. Aligning with World Health Organization (WHO) recommendations, urban areas ideally require a minimum of 9 square meters of green space per capita to promote well-being. Discrepancies in green space provision are evident across Indian cities; for example, Chennai and Pune currently offer a mere 0.81 and 1.4 square meters per capita, respectively, falling significantly short of WHO standards. National-level guidelines, such as the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines of 2014, advocate for a green cover ranging from 12% to 18% within urban areas. Various governmental policies, including the Ministry of Housing and Urban Affairs' (MoHUA) Urban Greening Guidelines of 2014, the National Mission for Green India (GIM) under the National Action Plan for Climate Change (NAPCC), and the National Clean Air Programme (NCAP), outline spatial norms for urban green coverage and delineate key stakeholders responsible for executing greening initiatives, encompassing eco-restoration efforts in both urban and peri-urban locales, as well as plantation schemes aimed at mitigating pollution concentrations (Climate centre for cities). As for Aizawl's current status, the specifics regarding its green coverage and compliance with these standards would necessitate a detailed assessment based on available data and local context.

### PROXIMITY PREMIUM (REAL ESTATE VALUE)

Several studies have corroborated the positive impact of proximity to parks, greenways, or recreational areas on property values, with increases ranging from 8% to 20%

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compared to similar properties lacking such amenities, a phenomenon often termed as the "proximity premium." Even multifamily communities can experience a 4.9% uptick in property value when situated with views of forested open spaces. In 2021, a study commissioned by Outforia unveiled that, residences near Wyoming's Grand Teton National Park commanded values 389.94% higher than the state average. Furthermore, recent research highlighted by the Orlando Weekly indicates that theme parks, including all Disney resorts and Legoland parks, contribute to a proximity premium within a 10-to-20-mile radius. Additionally, strategic integration of natural elements like trees into green spaces or along streets can augment property values by 2% to 15%, enhancing the aesthetic appeal of both urban and rural settings while providing nature-based stress relief (Nowak *et al.*, 2016). Similarly, the incorporation of community gardens within parks or playgrounds can bolster property values, with homes within 1,000 feet of such gardens experiencing nearly a 10% increase in value over five years. Beyond financial benefits, community gardens serve as educational resources for children to learn about plant life and foster social interactions among residents, who can also enjoy freshly grown produce from these communal spaces (Lee, 2015).

With Aizawl City currently devoid of any significant public park which are easily accessible and inclusive. The prospect of a public space in the heart of the city seems very much likely to change not only the real estate value but gave a whole new character to the area.

Mizoram's distinct topography, which consists mostly of steep hills and little flat area, creates significant obstacles for urban growth. Large buildable land parcels, like the one that Lammual currently occupies, are now scarce and precious due to this restriction. Any development on this property would have a significant impact on the infrastructure of the surrounding communities as well as the social, economic, and cultural landscape of the region.

Being a well-known hub of Aizawl, Lammual has the capacity to have a significant impact on how surrounding neighbourhoods develop and prosper. The patterns of mobility, social interaction, and economic activity in the neighborhood will probably depend on how this land is used, whether it is for housing, business, recreation, or a combination of uses. The choices taken here could have a ripple effect on future community development and urban planning in the city as the areas surrounding this site change.

Youngsters growing up in these communities are especially vulnerable to environmental changes. The environments

people live in influence how they socialize, feel like they belong, and interact with the community. If Lammual is created with an emphasis on public places, community development, and inclusivity, it may inspire a generation that prioritizes the welfare of the group over the interests of the individual. Public spaces like parks, sports fields, cultural hubs, or common areas can foster community engagement and a feeling of purpose and identity among locals.

Lammual's importance extends beyond its monetary or property worth. It could turn into a representation of social integrity that strengthens bonds between individuals and promotes the transition to a more sustainable set of values. Development in this field should prioritize long-term social and environmental advantages over immediate financial gain. This would entail incorporating green areas, encouraging environmentally friendly building techniques, and making sure the development meets the requirements of the community as a whole.

Aizawl might have a more sustainable future if this change occurs, one in which urban growth improves community well-being rather than causing environmental damage or social disintegration. A more connected, sustainable, and peaceful urban environment in Mizoram may result from the deliberate renovation of Lammual, which may serve as an inspiration for similar initiatives throughout the city and surrounding area.

### PUBLIC SPACE

There exists empirical evidence suggesting that green spaces exert a positive influence on stress physiology. Various Japanese studies have demonstrated the salutary effects of walking in forests and natural environments on physiological stress indicators, encompassing cortisol levels, pulse rate, blood pressure, and heart rate variability. Moreover, the quantity of green space has been correlated with favourable physiological stress regulation, as evidenced by diurnal daily cortisol patterns, particularly notable in underserved urban Scottish communities (Roe *et al.*, 2013)

Additionally, the classification of public spaces can be delineated based on gender dynamics. Social, religious, and cultural norms frequently dictate differential accessibility for men and women to various spaces. The absence of essential facilities catering to women further compounds this disparity, acting as a deterrent to their utilization of public spaces. This section will delve into these issues, exploring the divergent access patterns of men and women to the available public spaces within Aizawl city.

## PUBLIC SPACE FOR WOMEN

In many parts of the world, while women face no legal restrictions in accessing public spaces, social norms often deter them from certain areas. Women prefer marketplaces, cafes, and parks for leisure due to safety, comfort, and access to facilities. However, safety concerns, particularly during late hours, can hinder their mobility and limit their opportunities for education and work. Studies show women are willing to extend commutes for safer routes, highlighting the need for strategies against sexual harassment.

Men enjoy unrestricted access to public spaces, with women participating less frequently. In Aizawl, public spaces are often youth-centric, lacking amenities for women, children, and the elderly. Mizoram's parks, located on city outskirts, mainly attract young visitors, leaving families and older people underserved.

A centrally located park in Aizawl could address these gaps, providing a safe, inclusive environment for all demographics. Featuring playgrounds, well-lit paths, and seating for the elderly, it would encourage community interaction and healthier living. This space could foster inclusivity, offering a calm retreat for senior citizens and a welcoming place for families. Lammual, with careful development, has the potential to become a peaceful, social hub for diverse groups in the city.

## CASE STUDY ON LAMMUAL

### EXPERT OPINION VRS PUBLIC OPINION

The research framework was divided into multiple stages to systematically capture the varied perspectives on Lammual's land use and urban potential. This included the following key components:

### OBJECTIVE AND SCOPE

The primary objective of the study was to gather insights from both professional experts and local residents regarding the optimal use and development of Lammual. The scope extended to investigating potential land-use designations (e.g., recreational, commercial, residential, or administrative) and evaluating their social, economic, and environmental impacts. Additionally, the study aimed to explore the implications of various development options on the city's urban fabric and the community's quality of life.

### SURVEY DESIGN AND IMPLEMENTATION

A well-structured online survey was deployed from **20th February 2024 to 3rd March 2024**, targeting both expert

professionals and members of the public. The survey was designed to:

- Capture qualitative and quantitative responses.
- Include a balanced mix of open-ended and close-ended questions.
- Address multiple thematic concerns such as environmental sustainability, urban mobility, social inclusivity, economic impacts, and heritage conservation.

### EXPERT PANEL

The expert panel consisted of architects, urban planners, engineers, economists, and sociologists, each providing a unique perspective on Lammual's potential:

- **Architects** contributed knowledge on sustainable building design and urban form, with a focus on green infrastructure and public space development.
- **Urban Planners** assessed land-use compatibility, zoning strategies, and long-term planning to enhance connectivity and functionality.
- **Economists** evaluated potential economic benefits, particularly the proximity premium and real estate value impacts of green space development.
- **Sociologists** explored social equity and inclusivity, addressing concerns around public space access for vulnerable groups, such as women, children, and the elderly.
- **Engineers** focused on technical infrastructure requirements, environmental sustainability, and ecological considerations.

### PUBLIC PANEL

The public panel consisted of local residents, community leaders, and other stakeholders, representing various demographics and social backgrounds. This group was integral to ensuring that the proposed development of Lammual resonated with local values and day-to-day practicalities.

- **Local residents** were asked about their preferences for Lammual's development, their current use of the space, and their concerns regarding access, safety, and inclusivity.

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- **Community leaders** provided insights into the social cohesion and cultural relevance of the site, ensuring that any future development would support the communal identity.

### DATA COLLECTION

The survey responses were collected and categorized into two main groups: Experts and Public. The Experts group made up 29.4% of the total responses, while the public group contributed 71.6%. Data was further stratified based on profession, age, gender, and geographic location within Aizawl to ensure a diverse representation of the city's population.

### DATA ANALYSIS

The collected data was analyzed through both qualitative and quantitative methods:

- **Qualitative Analysis:** The open-ended responses were analyzed using thematic coding to identify common trends and concerns. This analysis helped uncover subjective opinions on land use, public space needs, and environmental impacts, particularly from the public group.
- **Quantitative Analysis:** The close-ended questions were analyzed using statistical methods to determine the distribution of preferences among various groups. Chi-square tests were conducted to identify significant differences between expert and public opinions on specific topics such as land use, green space provision, and urban mobility.

The findings from both qualitative and quantitative analyses were cross-referenced to highlight areas of convergence and divergence between expert recommendations and public sentiment.

### INTEGRATION OF FINDINGS INTO URBAN PLANNING

The study culminated in the formulation of a holistic set of recommendations for the development of Lammual, balancing expert-driven insights with community priorities:

- **Convergence:** Areas where expert and public opinions aligned were prioritized, such as the need

for more inclusive public spaces, increased green cover, and better urban mobility solutions.

- **Divergence:** In cases where opinions diverged, particularly regarding commercial development versus maintaining the space as a recreational zone, a multi-criteria decision-making framework was used to weigh the long-term social, environmental, and economic impacts of each option.

The results from this comprehensive case study were intended to guide urban planners and policymakers in making informed decisions regarding Lammual's development while ensuring that the process remains participatory and transparent

### IMPLICATIONS FOR URBAN PLANNING IN AIZAWL

The case study findings not only provide a roadmap for Lammual's future but also set a precedent for participatory urban planning processes in Aizawl. The incorporation of public opinion alongside expert knowledge ensures that urban development is equitable, sustainable, and responsive to the unique needs of the local community. This approach can serve as a model for future urban development projects in Aizawl and beyond.

### RESULT

Out of the 100 responses analyzed, 29.4% were classified as 'Experts' and 71.6% as 'Public,' as depicted in Figure 7. The 'Experts' group included professionals such as architects, planners, economists, sociologists, and engineers. These individuals contributed specialized knowledge from their respective fields. Architects offered insights into sustainable building and urban design, while planners focused on land use and long-term development strategies. Economists evaluated the economic impacts of sustainability initiatives, and sociologists provided an understanding of community dynamics and social cohesion. Engineers brought technical expertise on infrastructure and environmental systems. This expert input was complemented by the perspectives of the 'Public,' ensuring the sustainability indicators reflect both professional insights and local community values, making the tool more holistic and grounded in real-world priorities.

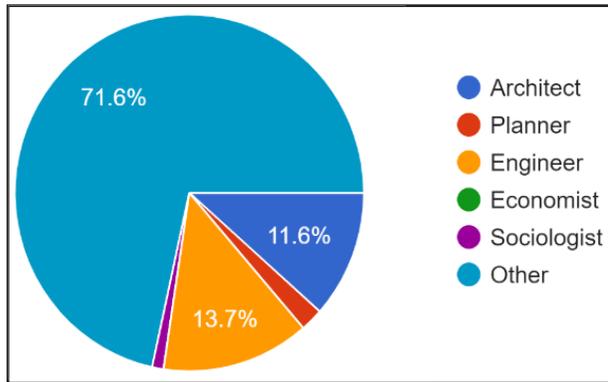


Fig. 7: Number of Responses

### DISCUSSION

From the public opinion, it's clear that there's a strong desire for the creation of green spaces within Aizawl, particularly in the densely populated neighbourhoods (Figure 8). The emphasis on undisturbed green sustainable parks and reserved plantation areas reflects concerns about air quality and the need for recreational spaces. Additionally, the call for affordable housing and a multi-purpose hall underscores the community's need for accessible amenities and spaces for various activities and events. The proposal for a recreational park in the city's core aligns with the public's desire for more leisure options and underscores the perceived lack of recreational areas. Moreover, the suggestion for a state-of-the-art shopping mall reflects a desire for modern amenities that cater to diverse needs and preferences. The emphasis on sports, especially football, suggests the importance of sports within the local culture. The call for a sports complex that can accommodate various

events highlights the community's desire to preserve and enhance its sporting traditions while also providing modern facilities.

On the other hand, the expert opinion emphasizes sustainability and eco-friendly development (Figure 8). This aligns with global trends towards environmental conservation and reflects a more holistic approach to urban planning. The focus on creating an eco-park and green reserves underscores the importance of preserving natural habitats and mitigating environmental impacts. The concern raised about potential traffic influx due to multi-use spaces highlights the need for careful consideration of urban development plans and their potential implications. Balancing the need for amenities and recreational spaces with concerns about traffic congestion and urban sprawl is crucial for sustainable development.

Overall, while there may be some differences in emphasis between public opinion and expert opinion, both perspectives share common goals of enhancing liveability, promoting sustainability, and addressing the needs of the community. Finding a balance between these perspectives will be essential for effective urban planning in Aizawl.

The stark contrast between public and expert opinions on the Lammual development's potential to solve the traffic issue reveals a significant divergence in perceptions. While 38% of the public believes that Lammual development will alleviate traffic problems, a much higher percentage of experts (62%) express scepticism (Figure 9). This suggests that there is a lack of consensus between the general population and professionals regarding the effectiveness of this development in addressing traffic congestion.

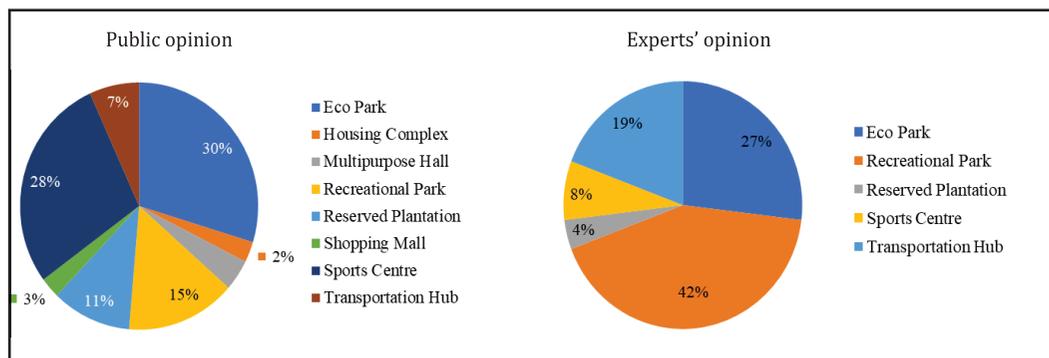
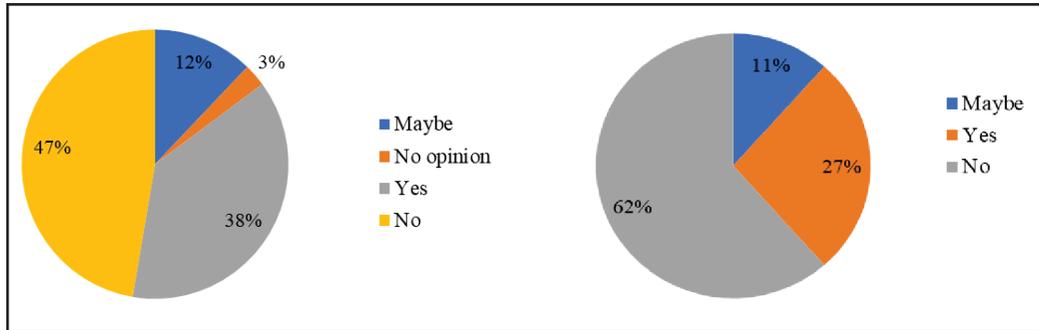


Fig. 8: Public vs Experts' opinion on type of development options

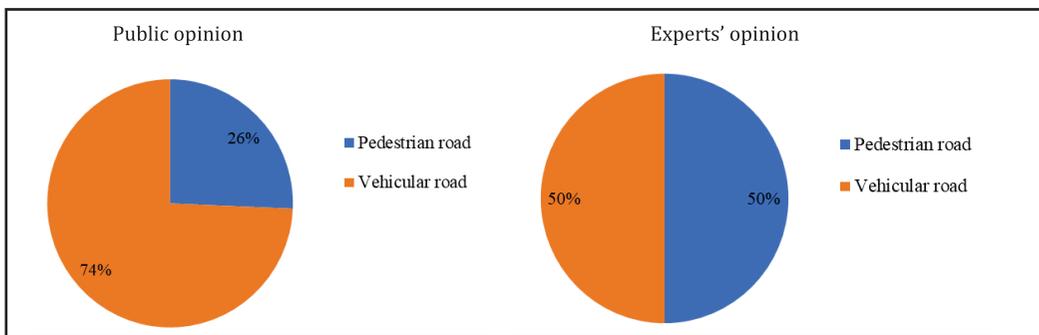
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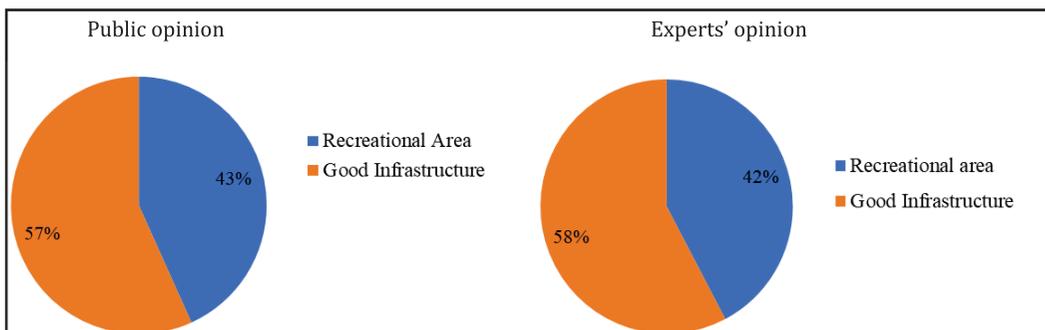
**Fig. 9: Public vs Experts' opinion on - will Lammual Development solve traffic issue?**

The disparity in opinions regarding the type of road—vehicular versus pedestrian—further illustrates differing priorities between the public and experts. The majority of the public (74%) prioritizes vehicular roads, indicating a strong preference for infrastructure that supports motorized transportation. In contrast, experts are evenly split (50-50) on the importance of vehicular versus pedestrian infrastructure, highlighting a more balanced perspective that considers both mobility and pedestrian-friendly urban design principles (Figure 10).

When it comes to the overall type of development, there is a closer alignment between public and expert opinions, with a slight preference for good infrastructure among both groups (Figure 11). However, it's noteworthy that a significant minority of both the public and experts prioritize recreational areas. This suggests that while infrastructure improvements are important, there is also recognition of the value of recreational spaces in enhancing the quality of urban life.



**Fig.10: Public vs Experts' Opinion on Types of Road (Pedestrian or Vehicular)**



**Fig.11: Public vs Experts' opinion on the two types of development**

Overall, the discrepancies between public and expert opinions on these issues underscore the complexity of urban planning and the challenge of reconciling diverse interests and priorities. While the public may prioritize immediate concerns such as traffic congestion and infrastructure, experts bring a more nuanced understanding of urban development principles and long-term sustainability goals. Finding a balance between these perspectives will be crucial in designing effective and inclusive urban development strategies in Lammual.

### SYNTHESIS

Both experts and the public agree on the need for green spaces, though their motivations may differ as comments from Table 1. Experts focus on sustainability and strategic urban planning, while the public emphasizes immediate benefits like leisure, clean air, and social equity as shown in Table 2. In the discourse on urban development in Aizawl, both experts and the public underscore the need for green spaces, albeit for different reasons. Experts emphasize sustainability and the long-term strategic planning that prioritizes environmental health, urban resilience, and systematic growth. They view the development of an eco-park and reserved plantations as essential to channel Aizawl's growth towards sustainability. For instance, the eco-park would contribute to ecological balance and foster a sustainable urban framework, while a reserved plantation would preserve biodiversity and create green reserves within the urban fabric.

Conversely, the public focuses more on the immediate and practical benefits of green spaces, such as leisure, clean air, and equity. The public advocates for an eco-park that offers a much-needed green pocket within the city to improve air quality and provide a recreational space for all income groups. The emphasis is on creating accessible green areas that contribute to the community's well-being and serve

as "lungs" for the densely populated city. This highlights a stronger desire among the public for spaces that fulfill immediate leisure needs and contribute to social equity.

Traffic congestion is another concern raised by both experts and the public, though their proposed solutions diverge. Experts propose relocating parking clusters and creating a transportation hub to streamline traffic flow. This reflects a technical, solution-oriented approach to the city's infrastructural needs. Meanwhile, the public calls for a transportation hub that centralizes all transport services, including a Maxi Cab terminal, which would not only address traffic issues but also offer a one-stop solution that improves daily commuting experiences for residents.

Recreational parks are also seen as vital by both groups, though experts warn of potential traffic influx, while the public stresses the absence of leisure spaces in Aizawl. Both groups agree on the value of a multi-use sports center, which reflects a shared interest in promoting physical health and sports, integral to Mizo culture.

The discussion highlights the necessity of a holistic approach to urban development in Lammual that balances sustainability, recreational needs, housing affordability, and traffic management. By integrating these diverse perspectives, city planners can create a multifunctional and inclusive space that meets the long-term needs of Aizawl's residents while promoting a healthier, more sustainable urban environment.

### CONCLUSION

The comprehensive exploration of literature and empirical data on public spaces, health and well-being, factors contributing to high-quality public open spaces, and the concept of publicness within public spaces provides valuable insights into the multifaceted nature of urban development. These findings underscore the interconnectedness between

**Table 1: Experts' Opinion on Type of Development**

Expert Opinion	
Eco Park	An eco park channels towards sustainability, and this is the main reason why any form of development in this area has to go in this direction.
Recreational Park	Aizawl doesn't have a recreational park as of yet for leisure, which can act as a multi-use open plaza. Some also however mention that making it multi-use can increase traffic influx.
Reserved Plantation	For green reserve
Sports Centre	To grow in the field of Sports, a sports stadium which can also be used for other events.
Transportation Hub	Mainly to cater to the current traffic congestion in the area, by relocation of the existing parking clusters and addressing the demand

## Balancing Expert Vision and Public Desire

**Table 2: Public Opinion on Type of Development**

Public Opinion	
Eco Park	Aizawl has seen increase in densely packed neighborhood without provisions of green areas, except on the periphery. As such, an undisturbed green sustainable park is required to provide a place for leisure and green pocket to provide clean air in the core of the city.
Housing Complex	Govt backed housing which is affordable to tackle current soaring rents.
Multipurpose Hall	A multi-purpose hall to cater to events of varying functions.
Recreational Park	Aizawl largely lacks recreational areas, as such, a recreational park in the core of the city to accommodate leisurely activities catering to all age groups is the need of the hour. This will also act as the lung of the city providing clean air.
Reserved Plantation	Aizawl and its vicinity are lacking thick green reserves, a reserved plantation area is therefore required to act as a habitat to cater to multiple flora and fauna, while providing clean air. Reserved plantation in the core of the city is also likely the most equitable development that can be made for all income groups.
Shopping mall	Aizawl doesn't yet have a state of art shopping mall.
Sports Centre	The area has been largely associated with Sports, mainly football. As such, to upkeep the value of sports, which is innate amongst the Mizo people, a Sports complex, which can also cater to other events is required.
Transportation Hub	Transport hub which incorporates all transport offices, with ample parking space, which also act as Maxi Cab terminal to act as a one stop solution to tackle traffic problems in Aizawl

physical environments, social dynamics, and community well-being, emphasizing the importance of holistic approaches to urban planning. Through a case study on Lammual, we observed a divergence between public and expert opinions on various aspects of development, ranging from traffic management to the prioritization of infrastructure versus recreational spaces. While public opinion often reflects immediate concerns and preferences, expert perspectives offer a broader understanding of sustainability, inclusivity, and long-term urban development goals. The discrepancies between public and expert opinions highlight the complexity of urban planning processes and the importance of stakeholder engagement in decision-making. Finding a balance between immediate needs and long-term sustainability objectives is essential for creating vibrant, inclusive, and liveable urban spaces. Overall, this study underscores the importance of integrating diverse perspectives, data-driven analysis, and participatory approaches in urban planning processes. By leveraging the collective wisdom of both the public and experts, cities can develop innovative and sustainable solutions that address the evolving needs of communities while fostering social cohesion, environmental stewardship, and economic vitality.

### RECOMMENDATIONS AND POLICY INTERVENTIONS FOR THE STUDY AREA

Here are some recommendations and policy interventions for the Lammual development:

### BALANCING PUBLIC AND EXPERT OPINIONS

- Prioritize green spaces:** Develop a plan that incorporates green spaces like eco-parks and green reserves, catering to the public's desire for recreation and the expert's focus on sustainability.
- Mitigate traffic congestion:** Address traffic concerns through a mix of solutions informed by expert advice. This could involve improved public transportation, pedestrian infrastructure alongside limited vehicular access, and strategic road network planning.
- Find common ground on development type:** While good infrastructure is important, integrate recreational areas to fulfil the needs of both public and experts for a well-rounded development.

### PUBLIC ENGAGEMENT AND EDUCATION

- Participatory planning:** Involve the community in the planning process through workshops, surveys, and public forums. This fosters transparency, addresses public concerns directly, and allows for incorporating local knowledge.
- Educational campaigns:** Educate the public about the long-term benefits of sustainable development practices and the potential drawbacks of prioritizing solely on short-term solutions like extensive vehicular access.

## SPECIFIC POLICY INTERVENTIONS

- a) **Land-use policies:** Implement policies that encourage the creation of mixed-use developments with affordable housing options, recreational areas, and green spaces.
- b) **Traffic management policies:** Consider congestion pricing for vehicles, designated pedestrian zones, and investments in public transport infrastructure to reduce reliance on cars.
- c) **Environmental sustainability policies:** Develop policies that promote energy-efficient buildings, green building practices, and renewable energy sources within the development.

**Author Contributions:** All authors contributed to the conceptualization, survey analysis, investigation, methodology, writing of the original draft, and reviewing and editing of the manuscript. All the authors have read and agreed to the published version of the manuscript.

**Funding:** This study received no external funding.

**Conflicts of Interest:** The authors declare no conflicts of interest.

**Data Availability:** Data available on request due to privacy/ethical restrictions.

The data that support the findings of this study are available on request from the corresponding author, [E.R]. The data are not publicly available due to their containing information that could compromise the privacy of research participants.

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