



DOI: <https://doi.org/10.38027/ICCAUA2025EN0192>

## **Towards Sustainable Living: Improving Living Conditions of Low-Income Workers in Bahrain's Labour Camps**

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### **Abstract**

**Received:** 13 January 2025  
**Revised:** 2 June 2025  
**Accepted:** 18 June 2025  
**Available online:** 5 July 2025

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This article has been selected and peer-reviewed for publication in this journal as part of the 8th International Conference of Contemporary Affairs in Architecture and Urbanism, held on 8–9 May 2025 in Alanya, Türkiye.

The reliance on migrant workers in the GCC countries has led to various challenges, particularly regarding the living conditions of these workers in labour camps. These accommodations are often, overcrowded and lack essential amenities contributing to health and social issues among the occupants. This paper aims to explore the living conditions of low-income workers in Bahrain's labour camps identifying challenges regarding their housing quality, access to services and social intergration. Applying a mixed methods approach in the form of surveys, interviews and case studies the paper explores ways to improve their livelihoods while promoting sustainable living. The study findings highlight issues such as inadequate ventilation, poor sanitation, and social isolation. The study proposes design interventions, including improved ventilation, better communal spaces, and sustainable housing solutions. The findings of the study contribute to the discourse on labour housing and offers insights to promote more inclusive, healthy, and sustainable living environments among low-income workers.

**Keywords:** Community-Centered Design; Housing Conditions; Labour Camps; Low-Income Workers; Sustainable Living.

### **1. Introduction**

Unskilled migrants who move to the wealthy GCC countries often live in labour camps, that are often characterized by cramped living conditions and very limited access to basic amenities. While there has been an increase in scholarly research focused on Gulf migration, little attention is paid to the living conditions of the low-income workers in these camps. The phenomenon of “labour camps” is not unique to the Gulf, similar camps exist in other parts of the world, such as in Southeast Asia and the United States. However, in the Gulf region, labour camps are particularly significant due to the larger influx rate of migrant workers. Over the last 30 years, there has been a significant increase in the number of migrant workers entering the GCC countries in response to the region's economic growth and development (Le et al., 2019). This growth was a result of the rising oil prices in the region, which led to the rapid infrastructure developments and other large-scale project investments in the region. However, the indigenous labour force in the region was very small, which led to the need to bring in a vast number of foreign workers who possess the necessary skills for these projects (Dito, 2010, as cited in Le et al., 2019). These workers primarily came from India, Sri Lanka, Nepal, Pakistan, Bangladesh, Africa and a handful of other countries and are brought to work in construction, cleaning and maintenance services, and other sectors that require unskilled labours (Gardner, 2010). Recent statistics indicate that migrants outnumber nationals in all GCC countries in terms of labour force participation, and also in terms of population size in four of the six countries (Le et al., 2019). This large scale reliance on migrant workers in the GCC countries has brought forth various challenges, particularly related to living conditions, labour rights, and their social integration. Migrants are often housed in labour camps that are characterized by cramped living conditions, with multiple individuals occupying a single room and sanitation facilities. Issues such as poor sanitation and lack of privacy contribute to health issues and spread of diseases. Despite the widespread prevalence of labour camps in the Gulf region, there has been little discussions on how these camps can be improved to provide better living conditions for these low-income workers. Therefore, there is a pressing need for more research in this area. Addressing these issues will not only improve the well-being of these migrant workers but also have a broader impact on the economy and social sustainability of the Gulf region.

### 1.1. Understanding the Settlements

In the Gulf cities, labour camps are not uniformly distributed, and are generally clustered in a specific neighborhood or the suburban regions. These accommodations, typically provided by the employers, are often situated in industrial areas or peripheral areas that far from the central city or other prominent areas (Ewers et al., 2023; Gardner, 2010). These accommodations are often provided as a cost-cutting measure for employers and to ensure that there is a readily available workforce for their operations. The term "labor camp" is used broadly in the Gulf states to refer to various types of accommodations for migrant workers. These camps can be divided into four distinct categories. The first type refers to the large and well-organized labor camps, which are generally run by large public and private industries in the region (Gardner, 2010). Typically, these camps provide accommodations for the unskilled transnational laborers who work in the Gulf states. These camps are considered to be the most desirable accommodation options for migrant workers as they usually come equipped with a range of amenities not always available in other types of camps, including air conditioning, a cafeteria, secure water sources, constant electricity, or recreational facilities. The second type pertains to apartment buildings with individual rooms, communal kitchens, and bathrooms. Most of these buildings are either constructed specifically for housing laborers or converted for this use (Gardner, 2010). The third type is aging and unwanted villas that can house a large number of these workers. Lastly, some laborers also reside in spontaneous structures around the cities, such as converted garages, lumber shacks, shipping containers, etc. Living arrangements in the camps usually involve six to eight individuals per room, with some variation. While regulations have been put in place by Gulf countries to restrict the number of people per room, in Bahrain it is a maximum of 8 per room with a minimum of 3.7 sqm per individual (*New Rules Set for Housing Workers in Bahrain*, 2015).

## 2. Scope of Study

Bahrain has recognized the importance of adequate housing for sustainable development and has implemented the Social and Affordable Housing Programme, reflecting the government's strategic priorities over the years (Department of Economic and Social Affairs, 2019). The government's commitment to the 2030 Agenda for Sustainable Development and its efforts to raise living standards through sustainable development is also evident in its achievements and initiatives (UNDP, 2019). However, given that low-income workers make up a large section of the population, promoting sustainable living practices among these workers is essential in achieving overall sustainable development goals. In this context, the study raised the following research question; How can the living conditions of low-income workers in labour camps in Bahrain be assessed and improved, while promoting sustainable practices for a better future? The question aims to understand the current living conditions of low-income workers in labor camps in Bahrain and identify ways to improve these conditions. The study seeks to assess the social and environmental impact of these living conditions and explore the possibilities of promoting sustainable living practices among low-income workers in labor camps. Improving the living conditions of low-income workers can lead to enhanced well-being, better health outcomes, and more significant economic opportunities. In contrast, ensuring sustainable practices will significantly contribute to the reduction of environmental degradation and increased environmental stewardship. The results and recommendations of this study will inform policy and programming initiatives aimed at improving the well-being of the most vulnerable populations and contribute to the overall sustainability goals of Bahrain. Policy-makers can use the findings to create policies and regulations that promote sustainable design and prioritize worker's well-being and rights. Employers can use the findings to improve the working and living conditions of their employees, promoting their health and well-being, and therefore, their productivity. Finally, the findings can contribute to knowledge on the issue of living conditions of low-income workers in labor camps, highlighting the importance of sustainable and community-centered design. Further research can build on this study to explore how these design principles can be introduced in other settings and how they can be integrated into current policies and practices to improve worker's lives. Overall, the primary aim of this research question is to contribute to improving the quality of life for low-income workers in labor camps in Bahrain while promoting sustainable development in the region. With this aim in mind, the primary objectives of the study are:

1. To map the current state of living conditions and sustainable practices among low-income workers in labor camps in Bahrain.
2. To identify the barriers that prevent low-income workers in labor camps from adopting sustainable living practices.
3. To develop recommendations based on the identified data to promote sustainable living practices among low-income workers in labor camps in Bahrain that complement the country's goal towards 2030 sustainable development.

## 3. Material and Methods

To answer the research question, the study adopts a mixed methods approach to gather and analyse data from low-income workers in Bahrain's labour camps. This mixed approach combining quantitative and qualitative data helps in gathering a richer and more nuanced understanding of the complex relationships between the variables being studied. Furthermore, this approach helps enhance the validity and reliability of the findings by capturing both numerical and contextual data. Participants for the study were selected from low-income workers living in two different labor camps in Bahrain. The inclusion criteria for participation were workers: aged 18 and above, currently residing in a labour camp in one of the two selected camps, identified as low-income workers, providing consent to participate in the research study. Data collection included a survey questionnaire, in-depth interviews, and a case study of the chosen camps. The survey questionnaire consists of structured, close-ended questions to collect data on the living conditions of the workers, focusing on the quality of housing, access to basic services, communal activities, and working conditions. In addition to the survey, a purposive sample of participants was selected from the two camps based on the criteria mentioned. The

in-depth interviews were conducted with these participants to gain insights into their experiences of living in labor camps and the effects on their livelihoods. Topics included housing conditions, access to basic services, community integration, and environmental practices in the two camps. The data collected from the interviews and survey will be analyzed using thematic analysis to identify themes and patterns in the data to summaries the findings. Triangulation of both data sets will be conducted to develop a comprehensive understanding of the research question and to compare the living conditions in both camps. One limitation of this study would be that it only considers data on the living conditions of workers from two camps, and not across all labor camps in Bahrain. Additionally, there may be selection bias that could impact the generalizability of the study's findings beyond the studied population. Furthermore, another potential limitation is the false consciousness assumption, where participants may rate their quality of life positively despite experiencing poor living or working conditions. This assumption presumes that participants are not aware of the situation they are in nor can give informed consent to unequal treatment. These realities can impact the study's validity and reliability. However, by using a mixed methods approach, appropriate sampling measures, and data collection from two different camps, the study hopes to address these limitations and provide valuable insights to enhance the livelihoods of low-income workers in labor camps in Bahrain.

4. Results

The study sample consisted of two apartment-type labor camps (provided by the employer), each with a total of 80 residents. The participants included 78 from Camp 1 and 73 from Camp 2, with the majority being from various parts of India such as Kerala, Tamil Nadu, Hyderabad, and Rajasthan. The predominant age group in both camps was 35-44 years old, followed by 25-34 years old in Camp 1 and 45-54 years old in Camp 2. The participants worked for an average of 8 hours per day, with some extending to 10-12 hours per day.



Figure 1. Demographic Details of the Camps.

Camp 1 was a two-story old run-down apartment with 10 rooms per floor and shared amenities like kitchens and bathrooms present on each floor. The rooms accommodated a minimum of 3 and a maximum of 6 individuals. On the other hand, Camp 2 was a two-story building with the ground floor utilized as a garage, and the upper level for accommodating workers. It included a communal kitchen and bathroom and 13 individual rooms, with each room accommodating a minimum of 4 and a maximum of 8 individuals. The survey mapped people’s satisfaction with three different aspects of living conditions, housing, cleanliness, and amenities.

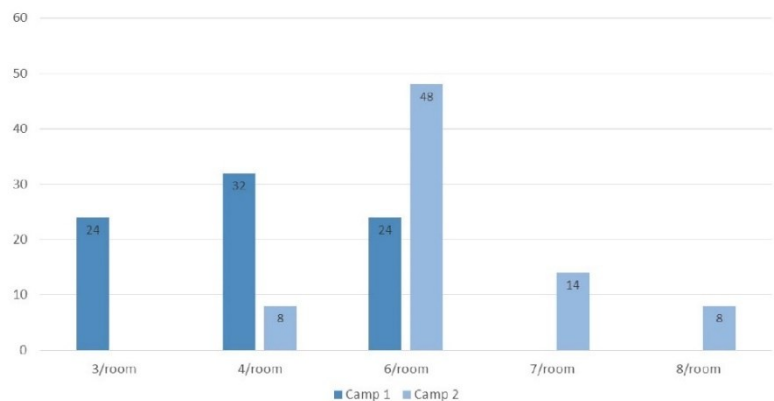
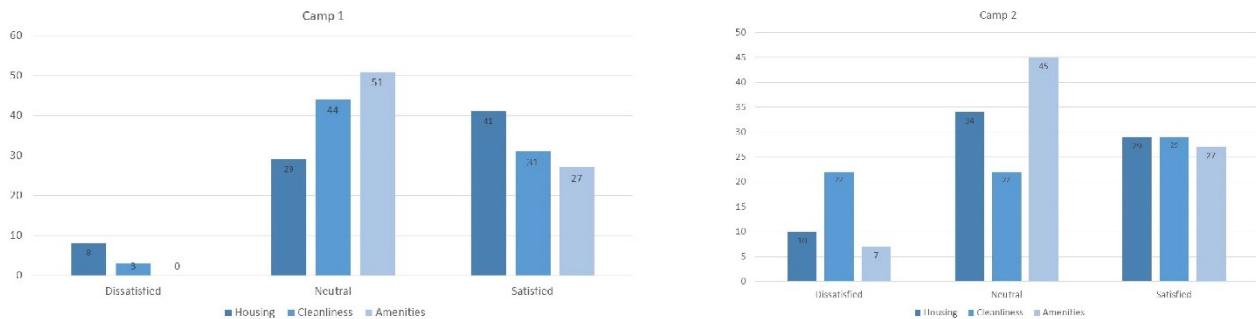


Figure 2. Number of Residents/Rooms in the Camps.

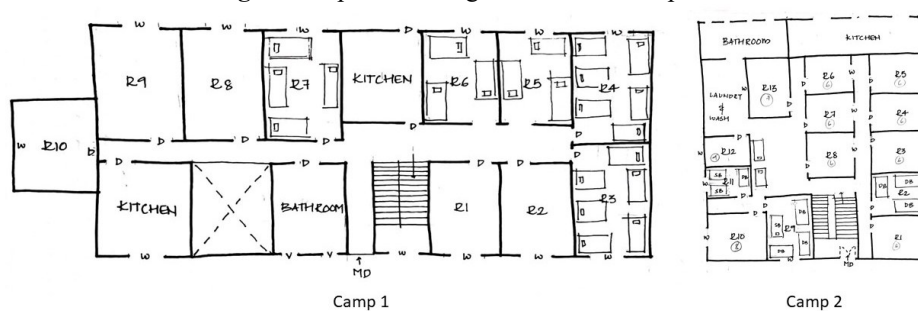
Most people residing in Camp 1 are content with their housing conditions, while a smaller number hold a neutral opinion. Dissatisfied residents make up the smallest group. As far as cleanliness goes, the majority of individuals express neutrality, with a slightly smaller group being satisfied, and only a few being dissatisfied. When it comes to amenities, most respondents hold a neutral view, while a smaller proportion is satisfied, and none are dissatisfied. Therefore, we can conclude that while no one is dissatisfied with amenities as a whole, it also doesn't receive high levels of satisfaction. Cleanliness doesn't seem to be an issue but doesn't have high satisfaction rates either. Housing seems to be the most positively viewed aspect of the living conditions in Camp 1.



**Figure 3.** Satisfaction Rates of Living Conditions in the Camps.

In Camp 2, housing receives a relatively equal distribution of opinions, with the majority of residents having a neutral view, followed by satisfied and a minority being dissatisfied. In regards to cleanliness, the number of neutral and satisfied responses is equal, implying that people generally have an indifferent or content viewpoint about this aspect. The number of dissatisfied responses is fewer than that of housing, indicating slightly better satisfaction levels. Amenities receive the highest number of neutral responses, with slightly fewer satisfied responses and no dissatisfied responses. This suggests a lack of outstanding aspects of the amenities, but they are also not considered unacceptable.

**Figure 4.** Spatial Arrangement in the Camps.



Both camps also reported a higher rating for the absence of natural light and ventilation facilities which is in line with the case study findings. Furthermore, the survey and the interview tried to map the community cohesion within the two camps. The results showed that there was little or no social interaction among the residents, and this was attributed to factors such as lack of time, designated communal spaces, and community-building activities. When questioned about different ideas for communal activities the younger individuals preferred more physically demanding activities like sports, exercise, or outdoor games, while the older residents preferred low-impact activities like social gatherings, board games, or quieter relaxation activities.

## 5. Discussions

The data collected from the study suggests that there are several areas where efforts can be made to improve sustainability and community-centered design. One key area is housing, where residents in both Camp 1 and Camp 2 express a relatively neutral outlook about their living conditions. This indicates a lack of outstanding complaints, but also a lack of high satisfaction rates. However, Camp 2 seems to have higher dissatisfaction levels for housing, potentially due to factors such as more people sharing rooms or residents from Camp 1 perceiving a significant improvement in housing standards from their previous residence. Additionally, the concept of false consciousness may also play a role in resident's justifications and perceptions of their living conditions, potentially impacting overall satisfaction levels as they had no say in choosing their accommodation. The living conditions in both camps appear to be overcrowded and congested, with a lack of proper maintenance, ventilation, and sunlight. In overcrowded living quarters, which lack open space and ventilation, cleanliness and hygiene are essential factors especially when facilities such as kitchens and bathrooms are communal. The lack of maintenance for these communal spaces contributes to unhygienic living conditions, which can impact the resident's health, especially during pandemics like COVID-19. Poor air quality is also a significant issue in such cramped living quarters, which can be exacerbated by poor ventilation. Poor ventilation leads to an accumulation of stale air, which is full of carbon dioxide and can cause an array of health problems, including dizziness, headaches, and respiratory ailments. Moreover, access to natural light is essential to improve the resident's physical and mental well-being. Insufficient natural light can have a detrimental effect on the residents' health, including disrupted circadian rhythm, lower Vitamin D production, and other adverse

effects like fatigue and depression. The study findings also highlight that labor camp residents lack social interaction and that this could adversely affect their mental health. The long working hours and inadequate personal time are significant contributing factors, as they hinder socialization and reduce opportunities to bond. Furthermore, the lack of designated communal spaces and community-building activities is also a contributing factor to this problem.

The data from the study can inform the design process to address the identified needs in several ways. Firstly, the results highlight the need to improve housing conditions for residents and create adequate personal space. The design process can consider creating housing units that provide private facilities like kitchens and bathrooms, and that can accommodate fewer individuals. Building materials that promote sustainability, hygiene, and durability can also be incorporated. Secondly, the study identified the need to address issues related to ventilation and natural light. Design solutions can include creating windows and ducts that allow for cross-ventilation, and incorporating large windows and skylights to provide adequate natural light. This also helps in reducing the load on air conditioning and artificial lighting and can lead to a substantial reduction in energy consumption and expenditure. Improved living conditions also have the potential to positively impact the physical and mental health of residents. Hygienic communal spaces could reduce the spread of diseases like COVID-19, while sufficient ventilation and natural light could enhance respiratory health and improve the mood of residents. Thirdly, the study identified the need to promote social interaction and create community spaces for residents to bond. Design implications may include creating designated communal spaces like gardens, and designated spaces for recreational facilities. One example could be a well-maintained terrace space in apartment-type camps that can be utilized for such recreational activities. Regular community-building activities like sports, exercise classes, and social events can also be created to promote social interaction. Providing flexible working hours or arranging staggered shifts can allow residents to have more personal time to engage in social activities. Fourthly, the study identified the importance of addressing language and cultural barriers that can impede social interaction. Design solutions may include creating programs that highlight cultural exchange. These programs could include cultural events, food festivals, and other community-building activities that provide opportunities for residents to learn about each other's cultures and establish connections. Addressing social isolation could enhance the sense of community and cohesion among residents and encourage individuals to interact and build social support systems. Additionally, by creating community-building activities and designated communal spaces, residents can find a platform to express themselves and share their culture, and opinions, leading to a more harmonious living environment. Finally, it is also essential to involve communities in the process of designing solutions that prioritize worker's well-being and rights. Involving such communities in the design process can ensure that the housing meets the specific needs and preferences of the residents. By improving living conditions, addressing social isolation, and enhancing the overall well-being of residents, these interventions could also have positive long-term economic impacts. Healthier and happier workers have lower healthcare costs, lower rates of absenteeism, and are more productive, which can lead to better job satisfaction and potentially higher wages. A happy and satisfied workforce also contributes to a stable and healthy community, fostering economic growth and stability.

## 6. Conclusions

In conclusion, the study provides a comprehensive understanding of the spatial, social and environmental challenges faced by migrant workers in labour camps. It provides crucial information on the needs and experiences of labor camp residents in terms of their living conditions and social interactions. By integrating data from the interviews, survey and case studies, the study highlights the need for a more sustainable approach to labour housing. The data collected indicates a need for improving living conditions in terms of addressing overcrowding, ventilation, maintenance, and access to natural light. Additionally, the study emphasizes the importance of addressing social isolation and facilitating community-building activities to improve the mental well-being of residents. The design solutions suggested, such as incorporating large windows and skylights to provide sufficient natural light and windows and ducts that allow for cross-ventilation to improve indoor air quality, can create a more comfortable and well-lit living environment that promotes good respiratory health and mental well-being, reducing energy consumption and expenditure. Improving living conditions and addressing social isolation could also have positive long-term economic impacts by fostering a healthy and stable workforce, which could ultimately benefit the wider community. The study's findings have valuable implications for policy and practice aimed at improving the living conditions of low-income workers in Bahrain. The study contributes to the existing knowledge of the living conditions of low-income workers in labor camps, emphasizing the significance of sustainable and community-centered design. Furthermore, additional research can build on this study to explore how these design principles can be adapted in other settings and integrated into existing policies and practices to optimize worker's lives.

## Acknowledgements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## Conflict of Interests

The Author(s) declare(s) that there is no conflict of interest.

## References

- Department of Economic and Social Affairs. (2019). The social and affordable housing programme of Bahrain. United Nations. <https://sdgs.un.org/partnerships/social-and-affordable-housing-programme-bahrain>

- Ewers, M., Diop, A., Duma, N., & Le, K. (2023). Beyond vulnerability: Contextualising migrant worker views on rights and wellbeing in the Gulf Arab states. *Comparative Migration Studies*, 11(1), 20. <https://doi.org/10.1186/s40878-023-00344-1>
- Gardner, A. (2010). Labour camps in the Gulf States. *Viewpoints: Migration and the Gulf*, 55–57.
- Le, K. T., Pancratz, S., & Diop, A. (2019). Labour camp surveys in GCC countries: Group quarter subsampling. *Field Methods*, 31(1), 76–91. <https://doi.org/10.1177/1525822X18815416>
- New rules set for housing workers in Bahrain. (2015). Trade Arabia. [https://www.tradearabia.com/news/CONS\\_278659.html](https://www.tradearabia.com/news/CONS_278659.html)
- United Nations Development Programme (UNDP). (2019). Sustainable Development Goals. <https://www.undp.org/bahrain/sustainable-development-goals>