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Case Study on Industrial Worker Housing

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Executive Summary

India's ambition to become a global manufacturing hub depends not only on attracting investment into factories, but also on ensuring that workers can access and remain in industrial employment. As labour-intensive industries expand across new manufacturing clusters, the availability of safe, affordable and proximate worker accommodation has emerged as a critical constraint on labour mobility, workforce participation and industrial productivity. Yet worker housing is not treated as an essential component of manufacturing infrastructure.

This case study examines the role of purpose-built industrial worker housing in addressing this gap. The paper explores how integrating worker housing into industrial development can improve labour availability, reduce employer operating costs, enable greater participation of women in labour force and create a viable infrastructure asset class through public-private partnerships and blended finance.

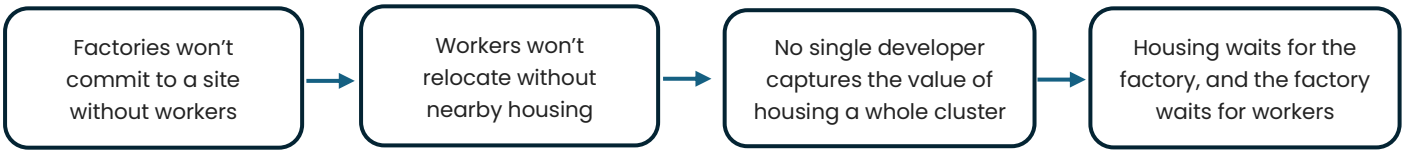
1. Manufacturing Growth Outpacing Worker Housing

India's manufacturing workforce runs on internal migration, roughly 100 million migrant workers, within an overall migrant population the 2011 Census put at 45.6 crore, of 45.6 crore recorded in the 2011 Census, up from 31.5 crore a decade earlier. That workforce contributes close to a tenth of India's GDP.

The problem lies with the scale. A modern electronics or EV cluster needs tens of thousands of workers on a single campus, far more than the surrounding town can house. In Tirupur, roughly half the garment workforce is migrant; the exporters' association has formally asked government for PPP-based housing. Similar challenges are now emerging across electronics, EV and semiconductor clusters established in greenfield locations with limited existing residential infrastructure.

The demand for worker housing is well established. A study of Bengaluru's industrial fringe found proximity to the workplace was the single most important housing criterion, rated more than three times as important as affordability with workers trading down on quality just to stay close.

Why doesn't the market simply build it? One industry analysis puts the logic plainly:



The coordination failure that keeps informal housing filling the gap

In the absence of adequate formal housing, informal accommodation has become the primary housing option for many industrial workers. While these arrangements offer lower rents, they often lack adequate sanitation, ventilation and fire safety, transferring the costs of inadequate housing to workers through poorer living conditions and to employers through higher transportation costs, absenteeism and workforce turnover.

2. Cost of Inadequate Worker Housing

The costs of inadequate worker housing extend beyond workers themselves, affecting employers and the broader manufacturing ecosystem.

2.1 Model – A: Cost with no Housing[1]

Inputs	Value
Transportation	INR 5,000/ worker/ month
Commute	4 hours/ day (2 hours each way)

Transport expenditure provides the minimum observable cost of the current system, with approximately ₹5,000 per worker per month for providing transportation for workers between their accommodation and the workplace. This does not capture the wider costs associated with inadequate housing, including higher absenteeism, workforce attrition and the resulting recruitment and replacement costs, estimated at approximately 40% of annual salary for each frontline employee who leaves.

2.2 Model B: Cost with Housing [2]

Assumptions	Value
Facility size	5,000 beds
Space per person (living + non-living)	~80-100 sq. ft
Construction rate	INR 3,327 per sq ft
Target return	15-17% project IRR

Computation	Outcome
Total built up area	~3,96,040 sq. ft
Construction cost	~132 Cr (BUA*construction rate)
Capex per bed	~ INR 2.6 lakh

[1] (2023). *Janaadhar Narsapura Field Study.*

[2] (2024). *SAFE Accomodation Worker Housing for Manufcaturing Growth.* Niti Aayog.

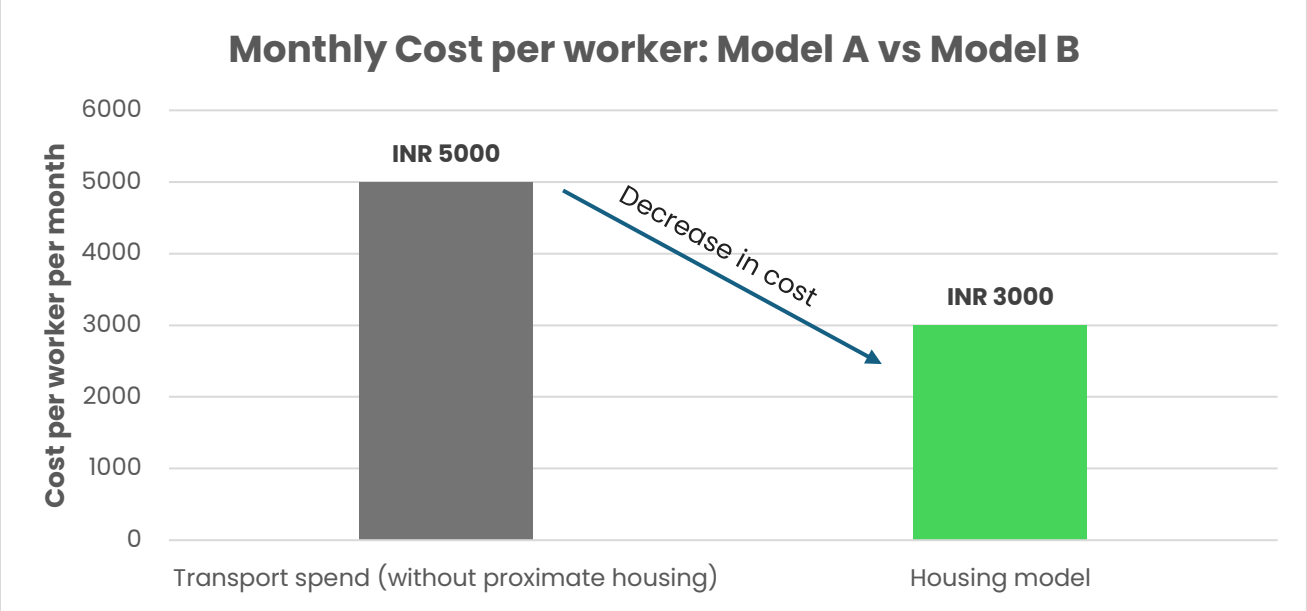
Rent stage	INR / bed / month
Current regulations	INR 5,000
With building reforms	INR 4,900
With building reforms + residential rates on taxes and tariffs	INR 3,900
Regulatory reforms + 30% capital subsidy with free land	INR 3,100

Based on the estimated project capex, the model estimates that a developer would need to charge approximately **INR 5,000 per bed per month** for an **80 sq. ft. accommodation unit** to achieve a target project IRR of 15–17% under the base-case scenario. The model then illustrates how successive policy interventions reduce this required rent. Building-level reforms lower the required rent marginally to **INR 4,900** per bed per month, while extending residential utility tariffs reduces it further to **INR 3,900**. With the addition of a **30% capital subsidy** alongside regulatory reforms, the required rent falls to approximately **INR 3,100** per bed per month.[3]

According to the **Periodic Labour Force Survey (PLFS) 2025**, the average monthly earnings of a **regular salaried worker in the manufacturing sector** are **INR 18,735**. Based on this benchmark, the monthly rent burden declines from **26.7%** of income under the base-case scenario (₹5,000 per bed) to **16.5%** following regulatory reforms and capital support (₹3,100 per bed)

The progressive decline in rent burden highlights the importance of combining regulatory reforms with capital support. While planning and utility reforms improve project viability, capital subsidies are critical to reducing rents to levels that are more affordable for entry-level manufacturing workers without compromising investor returns.

[3] (2024). *SAFE Accomodation Worker Housing for Manufcaturing Growth.* Niti Aayog.



The comparison illustrates that employers already incur significant recurring expenditure under the current system through worker transportation alone. Under the housing-based model, the monthly cost required to provide purpose-built accommodation after policy support is lower than the observed transport expenditure.

3. International Precedent

Across manufacturing economies, organised worker accommodation has repeatedly emerged where industrial growth depended on attracting migrant labour. While the models differ, it has helped them to recruit, accommodate and retain workers at a scale that local labour markets could not support.

Country	Sector / era	Approximate scale	Housing mechanism
China	SEZ manufacturing, 1980s onward	~30 million SEZ workers, ~80% women[4]	Employer-linked dormitories
Japan	Textile mills, early 20th century	Large female migrant workforce	Employer-run mill dormitories
Vietnam	Industrial parks, present day	Committed to 1 million units[5]	State-backed industrial-park housing

[4] Knox, A. (1997). *Southern China: Migrant Workers and Economic Transformation.*

[5] (2023). *Decision No. 338/QD-TTg: Project on Investment in the Construction of at Least One Million Social Housing Apartments for Low-Income Earners and Industrial Park Workers.* Government of Vietnam.

Country	Sector / era	Approximate scale	Housing mechanism
Singapore[6]	Migrant construction & manufacturing labour	~200,000 workers	43 purpose-built dormitories
Bangladesh	Ready-made garment (RMG) sector	4 million+ workers, mostly women[7]	Informal rental housing
Cambodia	Garment sector	~1 million workers, ~89% women[8]	Factory-adjacent worker settlements and rental rooms

Despite differences in regulation, the international experience points to a consistent pattern.

1. Worker housing has been concentrated in industries that depend on migrant labour rather than locally available workers
2. Women constitute a significant share of the workforce across many of these industries, particularly in electronics, garments and textiles, making secure accommodation an important enabler of labour force participation
3. Worker housing has typically been developed alongside manufacturing expansion rather than after labour shortages emerge, allowing industries to scale production while maintaining workforce stability.

Vietnam: The closest parallel to India

Among the international examples, Vietnam offers perhaps the closest comparison with India's emerging electronics manufacturing ecosystem. Since establishing operations in 2009, Samsung has expanded to employ more than **100,000 workers**[9] across its manufacturing complexes in Bac Ninh and Thai Nguyen. To support this workforce, the company developed a **26-building, 22,000-bed dormitory** at Bac Ninh, complemented by additional accommodation and a fleet of approximately **550 commuter buses** serving workers at Thai Nguyen.

[6] Ministerial Statement by Mrs Josephine Teo, Minister for Manpower. (2020).
[7] (2020). *Understanding the Gender Composition and Experience of Ready Made Garment Workers in Bangladesh.* International Labour Organisation.
[8] (2019). *Cambodia Garment and Footwear Sector Bulletin.* International Labour Organisation.
[9] Newsroom, S. (2017). Samsung Electronics Recognized in Vietnam as One of the Best Enterprises for Employees.

Vietnam's electronics manufacturing workforce is predominantly female, with studies by the International Labour Organization and International Finance Corporation noting that women account for the large majority of assembly-line workers in export-oriented electronics manufacturing. Independent reporting indicates that affordable dormitory accommodation has been an important factor influencing workers' decisions to renew employment contracts, illustrating how worker housing can contribute not only to labour mobilisation but also to workforce retention. As India expands electronics and semiconductor manufacturing through similar greenfield industrial clusters, Vietnam's experience demonstrates how worker housing can be integrated into industrial development from the outset rather than added as a response to emerging labour shortages.

4. Worker Housing in India

The shift towards organised worker housing is already visible across India's manufacturing corridors. Projects in Tamil Nadu and Gujarat illustrate a range of delivery models from state-developed facilities to employer-built campuses are all designed to support rapidly expanding industrial workforces. These developments demonstrate that worker housing is increasingly being treated as an integral component of manufacturing infrastructure rather than a standalone social intervention.

Worker-housing projects at Indian electronics and semiconductor sites

Project	Location	Delivery model	Reported scale
Vallam Vadagal residential complex	Sriperumbudur, Tamil Nadu	State-built (SIPCOT), women-only	13 blocks, ~18,720 beds, ~ INR 706 crore[10]
On-campus dormitory complex	Sriperumbudur, Tamil Nadu	Employer-built, on-site	Six 10-storey blocks, ~18,000 beds, ~USD 230 million[11]
Housing support for iPhone-assembly workforce	Hosur, Tamil Nadu	State-subsidised land, funded access road	Workforce housing for an active assembly plant[12]
Semiconductor-fab worker housing	Dholera SIR, Gujarat	State-built	1,500 flats [13]

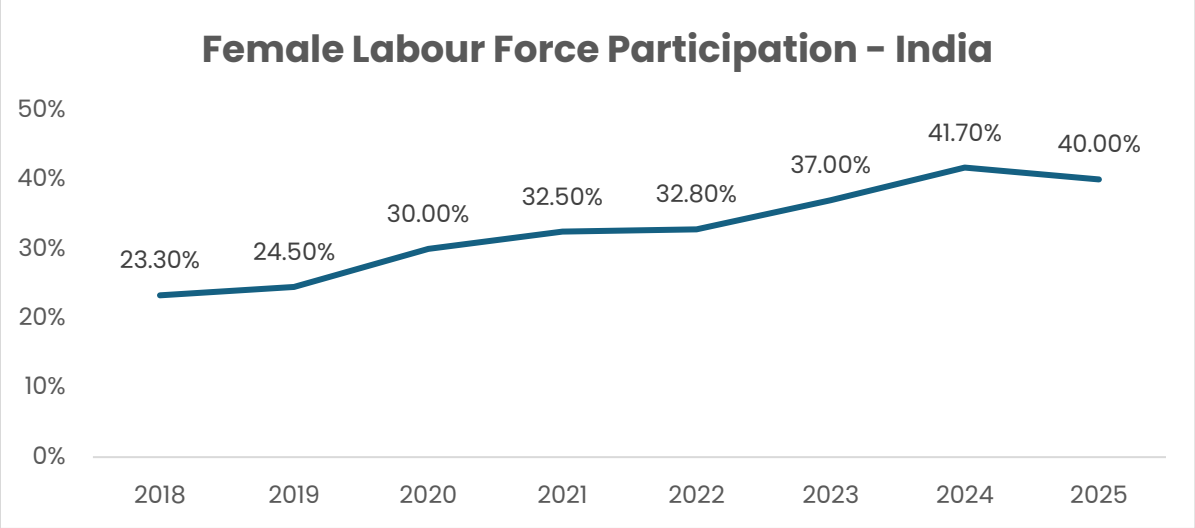
[10] (2024). *Indsutries, Investment Promotion and Commerce Department Policy Note.* Minister for Indsutries.
[11] India, T. O. (2024). Foxconn's $230 million 'home' for workers at Tamil Nadu plant complete.
[12] (2024). *Indsutries, Investment Promotion and Commerce Department Policy Note.* Minister for Indsutries
[13]Standard, B. (2025). Gujarat plans 1,500 housing units to support Tata's Dholera semicon fab

Together, these projects represent **tens of thousands of worker accommodation beds**, demonstrating that industrial worker housing is already being deployed across India's manufacturing corridors. These prove that the coordination failure resolves once government, developmental agencies and anchor employers co-ordinate.

The emerging Indian experience suggests that the principal challenge is no longer whether industrial worker housing can be delivered, but how it can be scaled while maintaining acceptable standards of affordability, quality and worker welfare.

5. Gender Dimension: Unlocking Women Employment

India has made notable progress in increasing women's participation in the labour market. According to the Periodic Labour Force Survey (PLFS), the female labour force participation rate (LFPR) increased from **23.3% in 2017-18** to **40% in 2024-2025**. However, much of this increase has been concentrated in rural and self-employed work. At the same time, the economic gains from improving women's workforce participation remain substantial. McKinsey Global Institute estimates that narrowing India's gender gap in could increase GDP by **up to 18%**[14] relative to a business-as-usual trajectory and more than 70% of this GDP boost comes from raising the female labour force participation rate.

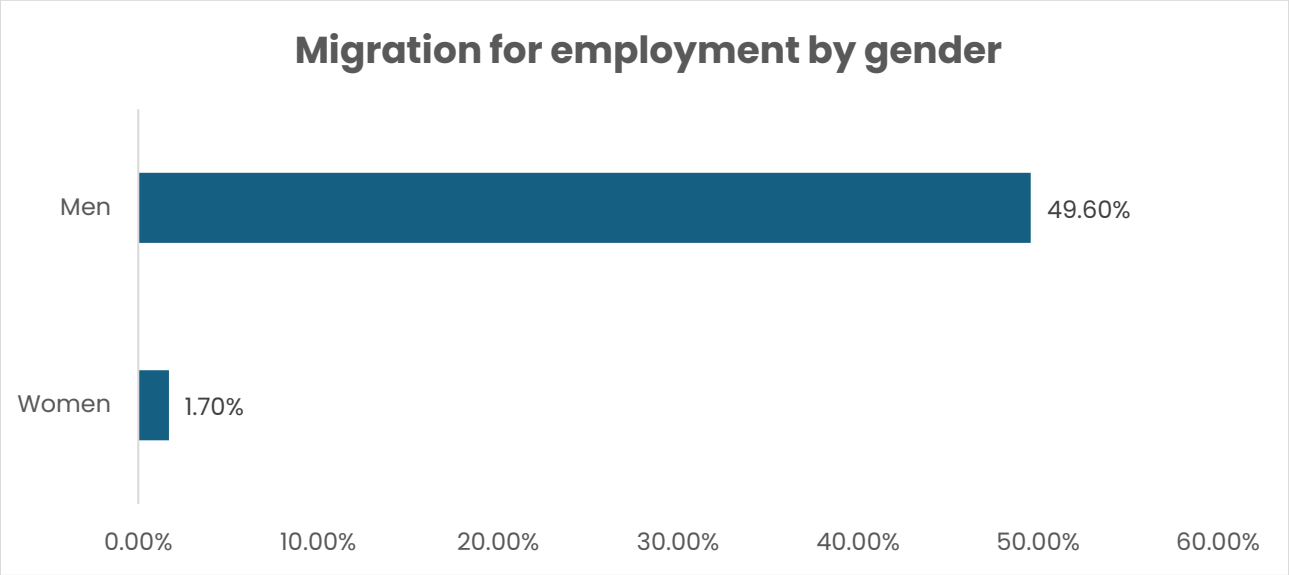


Source: PLFS Survey, MoSPI

Labour mobility remains a significant constraint. PLFS data show that only **1.3% of women migrate for employment**, compared with **42.9% of men**, highlighting the limited movement of women for work opportunities across regions. While multiple social and

[14] (2018). *The power of parity: Advancing women's equality in Asia Pacific.* McKinsey Global Institute.

economic factors influence migration decisions, safety consistently emerges as one of the most important considerations.



Source: PLFS Survey 2020-2021, MoSPI

Many of India's emerging electronics and semiconductor clusters rely on recruiting workers from outside the local labour market and increasingly employ women in assembly-line roles. In such settings, secure accommodation located close to the workplace can reduce dependence on long-distance travel, address safety concerns associated with commuting and make migration for formal employment more feasible.

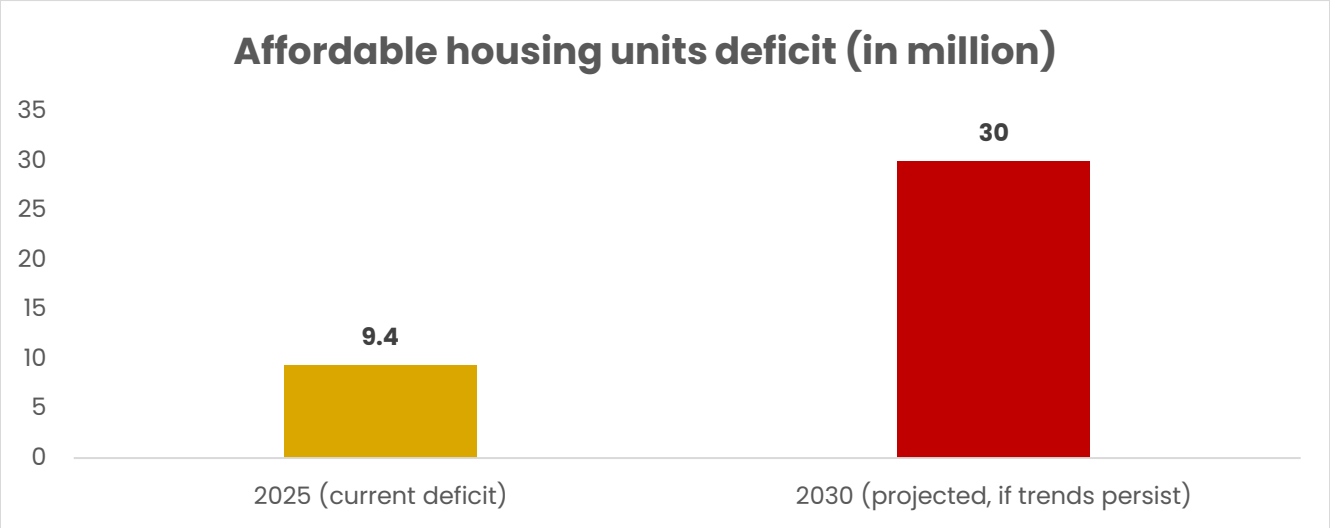
6. Impact of Worker Housing

Stakeholder	Without Worker Housing	With Worker Housing
Employer	Difficulty attracting and retaining workers, leading to labour shortages and higher operating costs	Lower attrition – lower replacement costs, Lower absenteeism, improved ability to attract and retain workers
Worker	Long commutes, insecure housing and poor living conditions	Affordable, safe and proximate accommodation

Women	Safety and mobility constraints limit participation in labour force	Improved access to employment through secure accommodation
Government	Labour shortages constrain industrial growth and investment	Greater labour availability, higher productivity and stronger manufacturing competitiveness.

7. Market Signals

India's broader affordable-housing pipeline is shrinking as demand grows. NAREDCO put the 2025 deficit at 9.4 million units, projected to triple to roughly 30 million by 2030. Affordable housing's share of new launches has fallen from over 52% in 2018 to about 17% in 2025.



Source: Knight Frank India – NARDECO, 'Affordable Housing in India (2025)

While affordable housing supply has contracted, Manufacturing real estate has accelerated. JLL projects manufacturing will account for 46% of industrial leasing by 2027, reflecting continued expansion of factory capacity. Unlike industrial space, however, worker housing has not expanded at a comparable pace, creating a growing mismatch between employment growth and the availability of affordable accommodation

8. Capital Structure

Industrial worker housing occupies a unique position between social infrastructure and commercial real estate. While projects require significant upfront capital investment, the target workforce can only afford modest rents, limiting the revenue available to recover development costs. Conventional real estate financing, which relies primarily on commercial debt and equity, therefore struggles to deliver worker housing at rents that remain affordable.

Blended financing addresses this challenge by combining concessional capital, such as grants and viability gap funding, with long-term institutional finance and private investment. Rather than replacing commercial finance, each source of capital performs a complementary role: concessional funding reduces the initial viability gap, institutional finance provides patient capital aligned to long-term rental cash flows, while private capital supports project development and operations. Together, these reduce the financing burden on the project, allowing affordable rents to coexist with commercially sustainable returns. The financial model presented in the previous section demonstrates that affordability is determined not only by construction costs but also by the way projects are financed.

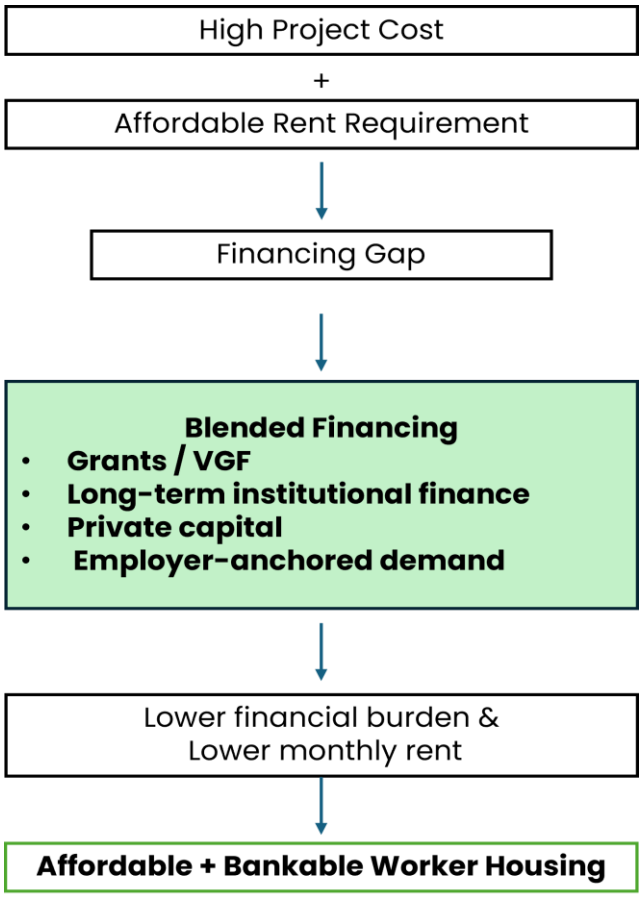


Figure 1: How Blended Financing improves affordability

The above figure illustrates this relationship. Rather than reducing construction costs, blended financing lowers the financing burden carried by the project

Tamil Nadu provides a practical example of this approach. Through a public-private partnership between **TNIFMC**, through the Tamil Nadu Shelter Fund (TNSF), and **SIPCOT**, implemented via a Special Purpose Vehicle (SPV), government support is combined with institutional capital to deliver industrial worker housing. Within this structure, SIPCOT contributes land and institutional support, TNSF provides long-tenor structured finance aligned to rental cash flows and oversees project structuring. Committed demand from industrial employers further reduces occupancy risk, enabling projects to attract commercial finance while maintaining affordable rents for workers. This demonstrates how blended financing can move beyond a funding mechanism to become a scalable delivery model for industrial worker housing.

9. Conclusion

India's manufacturing ambitions depend not only on expanding industrial capacity but also on enabling labour mobility at scale. As manufacturing clusters continue to grow, industrial worker housing is emerging as a critical enabler of workforce availability, productivity and women's participation in formal employment.

The evidence presented in this case study suggests that the challenge is no longer one of technical feasibility. International experience, emerging projects across India's manufacturing corridors and evolving financing models demonstrate that industrial worker housing can be delivered at scale. Its impact extends beyond the provision of accommodation - improving labour availability for employers, reducing commuting and housing burdens for workers, enabling greater participation of women in manufacturing, and strengthening the competitiveness of industrial clusters. The remaining challenge is to integrate housing into industrial development through coordinated planning, appropriate policy support and sustainable financing structures.

As India advances towards becoming a global manufacturing hub, industrial worker housing should be viewed as essential economic infrastructure that enables inclusive industrial growth.