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Report No: PAD3241

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED LOAN

IN THE AMOUNT OF US$50 MILLION

TO

INDIA

FOR A

TAMIL NADU HOUSING AND HABITAT DEVELOPMENT PROJECT

April 21, 2020

Urban, Resilience and Land Global Practice
South Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective April 01, 2020)

Currency Unit =	Indian Rupee (INR)
INR76.3 =	US$1

FISCAL YEAR
April 1 – March 31

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ABBREVIATIONS AND ACRONYMS

AIF	Alternate Investment Fund
AHFC	Affordable housing finance companies
CPF	Country Partnership Framework
CMDA	Chennai Metropolitan Development Authority
DPF	Development Policy Financing
ECBC	Energy Conservation Building Code
EDGE	Excellence in Design for Greater Efficiencies
ESMS	Environmental, Social and Governance Management Systems
EWS	Economically Weaker Section
GDP	Gross Domestic Product
GNPA	Gross Non-Performing Assets
GoI	Government of India
GoTN	Government of Tamil Nadu
HFCs	Housing finance companies
HUDD	Housing and Urban Development Department
IBRD	International Bank for Reconstruction and Development
IC	Investment Committee
IFC	International Finance Corporation
IM	Investment Manual
IPF	Investment Project Financing
LIG	Low-Income Group
MIG	Middle income group
O&M	Operation and maintenance
PPM	Private Placement Memorandum
RBI	Reserve Bank of India
RERA	Real Estate Regulatory Authority
SCB	Scheduled Commercial Banks
SEBI	Securities and Exchange Board of India
TNAUHHP	Tamil Nadu Affordable Urban Housing and Habitat Policy
TNHB	Tamil Nadu Housing Board
TNHHDP	Tamil Nadu Housing and Habitat Development Project
TNIF	Tamil Nadu Infrastructure Fund
TNIFMC	Tamil Nadu Infrastructure Fund Management Corporation
TNSAPCC	Tamil Nadu State Action Plan for Climate Change
TNSCB	Tamil Nadu Slum Clearance Board
TNSF	Tamil Nadu Shelter Fund
WB	World Bank

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name
India	Tamil Nadu Housing and Habitat Development Project

Project ID	Financing Instrument	Environmental Assessment Category
P168590	Investment Project Financing	Performance Standards: FI-2

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[ ] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Disbursement-linked Indicators (DLIs)	[ ] Small State(s)
[✓] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
18-May-2020	30-Jun-2025

Bank/IFC Collaboration
No

Proposed Development Objective(s)

To strengthen the housing sector institutions of Tamil Nadu for increased and sustainable access to affordable housing.

Components

Component Name	Cost (US$, millions)
Enabling private sector participation in affordable urban housing provision	35.00
Strengthening of Tamil Nadu's urban housing institutions for enhanced sustainability	14.87

Organizations

Borrower:	India
Implementing Agency:	Tamil Nadu Slum Clearence Board (TNSCB) Tamil Nadu Infrastructure Fund Management Corporation Limited Chennai Metropolitan Development Authority (CMDA)

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	72.00
Total Financing	72.00
of which IBRD/IDA	50.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	50.00

Non-World Bank Group Financing

Counterpart Funding	22.00
Sub-borrower(s)	22.00

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2020	2021	2022	2023	2024	2025
Annual	0.00	10.00	13.00	13.27	11.20	2.53

Cumulative	0.00	10.00	23.00	36.27	47.47	50.00

INSTITUTIONAL DATA

Practice Area (Lead)
Urban, Resilience and Land

Contributing Practice Areas
Finance, Competitiveness and Innovation

Climate Change and Disaster Screening
This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Low
2. Macroeconomic	Low
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Moderate
7. Environment and Social	Substantial
8. Stakeholders	Low
9. Other	
10. Overall	Moderate

COMPLIANCE

Policy
Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✔	
Performance Standards for Private Sector Activities OP/BP 4.03	✔	
Natural Habitats OP/BP 4.04		✔
Forests OP/BP 4.36		✔
Pest Management OP 4.09		✔
Physical Cultural Resources OP/BP 4.11		✔
Indigenous Peoples OP/BP 4.10		✔
Involuntary Resettlement OP/BP 4.12		✔
Safety of Dams OP/BP 4.37		✔
Projects on International Waterways OP/BP 7.50		✔
Projects in Disputed Areas OP/BP 7.60		✔

Legal Covenants

Conditions

I. STRATEGIC CONTEXT

A. Country Context

1. **Up until the global COVID-19 pandemic hit, India had been one of the fastest growing major emerging market economies; although Gross Domestic Product (GDP) growth had slowed down in the past three years.** The current slowdown is due to the combined effects of (i) balance sheet issues in the banking and corporate sectors compounded by stress in the non-banking segment of the financial sector, and (ii) significant external headwinds following the COVID-19 outbreak. These have not only prevented a sustainable revival in private investment, but also affected private consumption in FY19/20. As a result, growth is expected to reach 5 percent in FY19/20. On the fiscal side, the general government (center and states) fiscal deficit is expected to have widened to 7.5 percent of GDP in FY19/20, owing to tax cuts and weak economic activity. The current account balance is expected to improve in FY19/20, reflecting mostly a sizeable contraction in imports and a dramatic decline in oil prices. Given this, inspite of recent portfolio capital outflows, India's foreign exchange reserves remain comfortable (equivalent to about 10 months of imports as of end-February-2020).

2. **Since the 2000s, India has made remarkable progress in reducing absolute poverty.** Between FY11/12 and 2015, poverty declined from 21.6 percent to an estimated 13.4 percent at the international poverty line (US$1.90 per person per day in 2011 Purchasing Power Parity (PPP), continuing the earlier trend of rapid poverty reduction. Owing to robust economic growth, more than 90 million people escaped extreme poverty and improved their living standards during this period. Despite this success, poverty remains widespread. In 2015, 176 million Indians were living in extreme poverty, while 659 million - half the population - were below the higher poverty line commonly used for lower middle-income countries (US$3.20 per person per day in 2011PPP). With the recent slowdown in growth, the pace of poverty reduction may have moderated.

3. **India's economic growth is closely associated with urbanization, with cities offering a pathway to rapid poverty alleviation and the achievement of middle-income status.** Rising labor earnings due to the movement of labor from agriculture to non-farm work and an unprecedented rise in wages for unskilled labor propelled rapid poverty decline – extreme poverty rate in India was more than halved in two decades.[1] It is estimated that over 50 percent of Indians already live in cities. By 2030, 70 percent of new employment is expected to be generated in cities and the number of urban households in the middle class is likely to more than quadruple. Indian cities will need to accommodate 18 million new urban dwellers per year. Urbanization is placing cities as the main engines of economic opportunities and shared prosperity.

B. Sectoral and Institutional Context

4. **The southern State of Tamil Nadu is the one of India's most urbanized states, and an economic powerhouse undergoing an economic and spatial transformation.** Nearly half (48.4 percent) of Tamil Nadu's population of 72.1 million is urban.[2] Rapid urbanization in the state is expected to increase the urban population to 63 percent by 2030. From 2004 to 2012, the state's GDP grew at an annual average of 9.3 percent – around two percentage points higher than the national average– while per capita income witnessed a compound annual growth of 15.9 percent in the same period. The majority of GDP is generated in urban areas and is reflected in the contribution of the services and industry/manufacturing sectors to the state's economy, 58 and 30 percent respectively. Automobile, pharmaceuticals, garments, textiles, chemicals, and plastics are among the state's main manufacturing products. Chennai, in particular, is well known for its auto production, earning itself the nickname

[1] Extreme poverty in India decreased from 46 percent in 1993 to 21 percent in 2011 (using the international poverty line of US$1.90 per person per day in 2011 PPP), and according to World Bank estimates, poverty continued falling in more recent years.
[2] 2011 National Census Report.

of the "Detroit of India." Chennai's economic dynamism has made the capital city very attractive to migrants from within and outside Tamil Nadu.

5. **Tamil Nadu, like other rapidly urbanizing states in India, has not been able to adequately meet the increased demand for housing and urban services, especially for the low-income segments of the economically weaker section (EWS) and the low-income group (LIG)[3].** Tamil Nadu is considered a pioneer in India for leading efforts on affordable housing. It was the first state in India to set up an institution dedicated to issues of slum improvement, and has successfully implemented the sites and services program, among others. Despite these efforts, housing shortage in Tamil Nadu was estimated at 1.25 million units as of 2011[4]; with the urban population growing since then, and expected to continue growing, the pressure on housing provision has only increased. Seventy seven percent of EWS and LIG households live in congested houses and need new houses while 13 percent live in non-serviceable *katcha*[5] dwellings. The remaining 0.13 million households live in obsolescent houses or are homeless. It is estimated that about 96 percent of the total housing deficit is concentrated in the EWS/LIG segments.[6] Access to basic urban services - water, sanitation, public transport, energy, and health care - remains deficient in most cities, worsening at the urban periphery compared to the core, causing urbanization to be messy. An estimated 6 million people in the State currently live in slums (representing 16.6 percent of the state's urban population). In Chennai, the slum population amounts to 329,827 households.[7]

6. **The COVID-19 emergency has underscored the importance of the proposed Project.** The COVID-19 pandemic put urban households at unprecedented risk of increased poverty, loss of human capital, assets and livelihoods, with effects that may be irreversible. The impact will be most acute among the poor, particularly those living in overcrowded slums with limited access to basic services. The proposed Project will enable delivery of safe housing solutions with improved access to living conditions at a scale needed to respond to needs of the vulnerable and marginalized population. The proposed Project will provide resources to the housing sector at the time when the Government of Tamil Nadu (GoTN) accelerates its efforts to address the socio-economic impact of COVID-19 pandemic. In particular, the real estate sector which accounts for a significant share of the local economy has been adversely affected by the ongoing pandemic. The Project's support to the Tamil Nadu Shelter Fund and housing institutions is likely to act as a stimulus and contribute to the speedier recovery of the real estate sector.

7. **The existing housing program and institutions are unable to respond effectively to the large housing demand.** Historically, the public sector has been the main provider of affordable housing in Tamil Nadu. During 2016-2018, about 85 percent of the affordable housing supply in the State was provided by public sector, with the Tamil Nadu Slum Clearance Board (TNSCB) being the main agency to plan, build and deliver various affordable housing schemes in government-owned land. For the economically weaker segments, the Government builds housing units, for which the beneficiaries make a minimum contribution[8]. The pace and scale of housing provision by the State is not adequate to address the existing deficit in housing stock. The product is also not adequate, as all units built have the same design and characteristics and are built in similar concrete building blocks regardless of location or beneficiaries' preferences and livelihoods. Moreover, the public sector housing provision does not

[3] EWS households are defined as households with annual income up to INRs. 300,000 (US$4,285) while LIG households are defined as households with annual income between INRs. 300,001 and INRs. 600,000 (US$4,286-8,571) by the Ministry of Housing and Urban Affairs, GoI (PMAY-HFA Urban Scheme Guidelines).
[4] According to the Technical Group (TG-12) report on Estimation of Urban Housing Shortage 2012.
[5] A *katcha* structure is one whose walls and roofs are made up with mud, bamboo, grass, leaves, reeds, thatch or unburnt bricks.
[6] Report of the Technical Group (TG-12) on Estimation of Urban Housing Shortage 2012, pp 355.
[7] Census of India, 2011 (accessed on https://www.census2011.co.in/census/city/463-chennai.html).
[8] Under the Pradhan Mantri Aawas Yojana (Urban), which aims to provide housing for all by 2022, the GoTN has been sanctioned 7.56 lakh housing units, around 54% of the assessed demand of 13.91 lakh, and construction is under various stages as per 50th CSMC Meeting of MoHUA (Jan 2020).

consider varying income levels and affordability (see Annex 5 for an analysis on housing affordability across the income distribution in India), and market demands for housing solutions among the LIG and EWS. This means that some units are allocated at highly subsidized levels to households with some ability to pay.[9] There is no product differentiation to satisfy the needs of LIG and EWS, accommodate different household size and preferences, or housing solutions for employees of industrial complexes or for females.

8. **The current public sector-led provision of affordable housing poses a growing fiscal burden while it disincentivizes and crowds-out the private sector from the affordable housing sector.** GoTN has supplied on average 33,500 housing units annually through public programs[10]. Clearly, the public sector alone will take decades to address the backlog of the current backlog in housing stock, not to mention the additional housing needs arising from population growth, urbanization, and demographic and socio-economic changes. Hence, the role of the private sector become critical in meeting the gap. However, while housing finance and developer sector have seen a rapid growth in India (See Box 1), there is limited private sector activity in the affordable housing segment in Tamil Nadu. The affordable housing developer industry in Tamil Nadu is highly concentrated in the middle-income segments and only a handful number of private actors are currently engaged in LIG/EWS housing provision. The provision of public sector housing with very high levels of subsidies has crowded out private developers, even for the above-EWS market. This poses a challenge for the State, as the Tamil Nadu Affordable Urban Housing and Habitat Policy (TNAUHHP) 2020 aims to reduce the long-term fiscal burden on the government through increased private sector involvement in delivery of affordable housing.

Box 1. Overview of housing finance in India

India's housing finance market has seen some breakthrough in recent years through expansion in its reach and by catering to "non-traditional" clients, including low-income and informal groups. Housing finance companies (HFCs) and scheduled commercial banks (SCBs) are the two main providers of housing finance in India. Outstanding housing loans as a percentage of GDP have increased from 1.9 percent in 1997–98 to 10.3 percent in 2017–18 and have grown at over 25 percent per year during the last decade. This growth is higher than the total growth of SCB credit to the private sector. Outstanding housing loans of SCBs and HFCs have grown from less than US$ 4 billion (INR 286 billion) in 1997-98 to more than US$237 billion (INR 17,000 billion) in 2017-18. Housing is a priority sector for the government, and there are quotas for priority sector lending by banks. The history of this dual SCB and HFC offering on the supply side of housing finance originated in the 1990s, when SCBs entered the housing market. More recently affordable housing finance companies (AHFC) have entered the market. AHFCs serve low-income, urban informal households who do not possess reliable documentation of income, are new to credit, and are underserved by HFCs and SCBs.

Liquidity pressures in the non-bank sector emerged in Q4 of 2018, owing to a series of defaults by a non-bank group, Infrastructure Leasing & Financial Services (IL&FS), but these pressures are now easing. Because HFCs are mainly funded through unsecured debt from the capital markets, these liquidity pressures affected the cost of funding for non-banks, including HFCs. The authorities have implemented measures and as of late 2019, funding conditions appear to have eased for some non-banks, and there is greater differentiation by financial market participants based on the underlying performance of firms in the capital markets. Gross non-performing assets (GNPAs) for housing loans (which were less than 2 percent at both HFCs and SCBs as of March 2019) have been unaffected by these liquidity pressures and have remained low, though in other sectors, including construction, delinquency rates are still high. Overall housing GNPAs continue to be low when compared to the overall sector's GNPA of 9.3 percent (September 2019). See Annex 4 for additional details on the housing

[9] A contribution of only 10% of the established housing cost is charged from beneficiary households by GoTN. In some cases, such as relocation of at-risk households, i.e. residing on riverbanks of Adayar and Cooum rivers, the beneficiary contribution of 10% is also waived off.
[10] As per HUDD's Policy Note 2019-20, 100283 houses/tenements constructed by TNSCB and TNHB for EWS/LIG from 2016-17 to 2018-19.

finance sector in India).

9. **The sustainability of the current government housing programs needs strengthening.** TNSCB does not have a standardized environmental or social framework applicable to all its projects. Instead, it implements ad-hoc measures depending on project imperatives. To assess the socio-economic characteristics and demand needs of its beneficiaries, TNSCB uses a survey questionnaire that does not include enough information for adequate targeting. This leads to a one-size-fits-all urban design solution across all its sites. The lack of proper demand assessments limits its ability to provide tailored housing solutions at different sites and for different population groups. Moreover, insufficient technical capacity within TNSCB has limited its ability to develop an overarching urban design framework that guides its housing developments to ensure climate resilience, high quality of living, adequate services, public safety, and social cohesion, as well as environmental sustainability. These combined challenges have led to numerous grievances from beneficiaries, as they find the design solutions or service standards are not tailored to their needs. This situation is further exacerbated by a lack of adequate maintenance of the units.

10. **A fundamental shift in the policy, institutions, and regulations in Tamil Nadu's housing sector is needed to increase access to affordable housing in the state in order to meet the current and projected demand**. The recently enacted TNAUHHP 2020 is the first step in this direction. The State now needs to develop an overarching housing sector institutional architecture, enabling regulations, and coordination mechanisms that help it achieve the key principles and restructure its institutions to realize the development objectives of the TNAUHHP 2020. Additionally, supply-side constraints in the housing sector are limiting the provision of formal affordable housing solutions in well-located areas. Difficulty in accessing well-located and serviced urban land, coupled with regulatory barriers such as rigid planning norms and outdated procedural requirements for permit and registration, have impeded the effective supply of housing in the past.

11. **Recognizing these binding constraints, the GoTN has embarked on an ambitious reform program to transform the housing sector.** The reform program has the higher objective of developing a well-functioning housing market that crowds-in private sector participation in affordable housing and addresses the needs of low-income population effectively. The GoTN's efforts are focused on redefining the Government's role and mandate from provider to enabler of efficient and inclusive housing markets, moving away from being the sole provider of housing solutions for the poor. In this transition, the GoTN is addressing key regulatory constraints that are critical to unlock the supply of affordable housing and for a well-functioning housing sector to set an enabling environment in the housing sector[11]. These reforms are designed to bring in private sector financing in affordable housing, while adopting standards and sustainability for environmental and social management, to improve access and sustainability of affordable housing in the state.

12. **The proposed Project is a part of the World Bank Group's programmatic engagement to support the transformation of the housing sector in Tamil Nadu.** The proposed Project has been prepared concurrently with the First Tamil Nadu Housing Sector Strengthening Program Development Policy Loan (P172732, US$ 200 million), a series of two single-tranche programmatic Development Policy Financing (DPF) operations. The first DPF supports the GoTN's ongoing reforms for housing policy, institutions, and regulatory environment that are the building blocks to create a housing market and to increase access to affordable housing. The second DPF will build

[11] To meet the housing demand and to strengthen the regulatory environment in the rental market and to promote rental housing, GoTN has enacted the Tamil Nadu Regulation of Rights and Responsibilities of Landlords and Tenants Act, 2017 repealing the Tamil Nadu Buildings (Lease and Rent Control) Act, 1960 to balance the rights and responsibilities of landlords and tenants. The Act provides for compulsory registration of all rental agreements. To regulate and promote the real estate sector by regulating the transactions between the buyers and promoters, the GoTN has also enacted the Tamil Nadu Real Estate (Regulation and Development) Act, 2016 and notified the Rules in June 2017.

on the enabling policy, institutional, and regulatory environment and deepen policy reforms targeted to make the affordable housing sector more efficient and inclusive. It will introduce new housing programs and implementing the new institutional architecture, while ensuring the long-term sustainability of the housing sector (see Box 2 for more details on the proposed DPF). The proposed Project will complement the proposed DPF series by strengthening key housing institutions for increased access to affordable housing and improved sustainability, which would help to sustain and deepen reforms supported under the two DPFs. International Finance Corporation (IFC) has been active in its advisory role and has provided complementary technical support on the Excellence in Design for Greater Efficiencies (EDGE) green building program in Tamil Nadu. There is a potential for IFC to further engage in downstream investment in the Tamil Nadu Shelter Fund (TNSF) once its business model is fully developed and its capacity is strengthened under the proposed TNHHDP.

Box 2. First Tamil Nadu Housing Sector Strengthening Program Development Policy Loan

The First Tamil Nadu Housing Sector Strengthening Program Development Policy Loan is the first in a series of two single-tranche programmatic DPFs, in the amount of US$200 million. The objective of the DPF is to support the GoTN to increase the access to affordable housing by strengthening policy, institutions, and regulations of the housing sector. It supports a set of state-level policy, regulatory, and institutional reforms that are expected to promote efficient and inclusive housing market development and to increase the supply of affordable housing. The proposed DPF is structured in three pillars: (i) strengthening policy and institutions to support inclusive and efficient housing sector development; (ii) developing an enabling environment to increase the supply of affordable housing; and (iii) crowding private sector participation in affordable housing.

The first pillar of *strengthening policies and institutions* supports the GoTN's efforts to transform the housing sector from its current state-led model to a market model that enables the development of solutions for multiple needs and one that leverages private sector and beneficiary contributions towards increased access to housing. The second pillar of *enabling environment* is focused on unlocking regulatory barriers that will effectively increase the supply of affordable housing. The third pillar of *increased private sector participation* supports the creation of a new institutional set-up to incentivize private sector participation in affordable housing.

13. **For the reform efforts to lead to a sustainable and long-term path, it is critical to invest in and support the housing sector institutions.** The set of reform efforts initiated by the GoTN will only yield the expected results if they are accompanied by strong institutions in the housing sector to ensure the adequate sustainability and implementation of policy measures. The new policy will move away from the "business as usual" approach of public sector driven programs prevailing in India for decades. Housing institutions will need to support move away from the inertia of their current roles. Their capacity needs to be strengthened to assume their new role and mandates, to bring long-term sustainability of the reform efforts, and to further deepen the transformation of the housing sector.

14. **TNSCB has been providing housing since 1970; however, there was no State level institution mandated to attract private investment for the supply of affordable housing. To fulfill this new objective, the GoTN created the TNSF in 2017.** The TNSF is a new Alternate Investment Fund (AIF) regulated by the Securities and Exchange Board of India (SEBI)[12] that will offer investors the possibility to invest in mix-use affordable housing projects that meet certain standards. Its main objective is to support public-private projects for the development of affordable housing. The TNSF is managed by the Tamil Nadu Infrastructure Fund Management Corporation (TNIFMC)[13], an asset management company with a track record in managing the Tamil Nadu Infrastructure Fund (TNIF) (see Annex

[12] Regulation 2(1) (b) of Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012.
[13] TNIFMC is owned by the Government of the State of Tamil Nadu (49%), and state and private financial institutions (51%). The Board is comprised of: 4 Government Directors (to be reduced to 2), 2 Independent directors and 1 Shareholder nominee (NHB).

3). TNIFMC is responsible for making investment decisions, monitor the performance of investments, compliance with SEBI, investor relations and other corporate reporting obligations of the TNSF. No resources can be received by TNSF until a private placement memorandum (PPM)[14] is approved by SEBI. Two key milestones of TNSF's implementation are supported by the first single-tranche DPF of the programmatic engagement with Tamil Nadu: the approval of a revised PPM[15] by SEBI which would allow the mobilization of finances for affordable housing, and the adoption of environmental, social, and governance standards for all projects supported by the TNSF. To date, the TNSF has received a commitment of around US$21 million from the Government of Tamil Nadu, while other investors have also shown interest.[16]

15. **Housing programs and policies need to be integrated and coordinated with urban spatial development and sectoral plans.** This is most prominent for the Chennai Metropolitan Area (CMA), the largest metropolitan region in Tamil Nadu. The Chennai Metropolitan Development Authority (CMDA)[17] is the nodal town planning authority for the CMA. The CMDA is currently initiating upstream work on its next Master Plan (2026-2046), where complementarities between different sectors are needed to optimize a coordinated spatial development strategy. The new master plan would need to draw from a strong analytical foundation, built on cross-sectoral integration. The current capacities within CMDA are not fully geared towards building such a foundation. Integration and links between land use planning, housing, public transportation, disaster risk, water and wastewater, are critically missing. A comprehensive spatial development strategy provides an opportunity to maximize the impact of affordable housing programs (for example by linking spatial planning of housing with economic/employment opportunities) and ensure that such development can turn them into vibrant and prosperous communities. The existing capacity of the CMDA needs strengthening to undertake a comprehensive master planning exercise that builds on a strong analytical foundation as well as coordination and integration of multiple sectors.

16. **Climate and geophysical risks in Tamil Nadu are high.** The Tamil Nadu State Action Plan for Climate Change (TNSAPCC) indicates an expected increase in extreme temperatures and extreme weather events (heavy rainfall, cyclones, sea surges, etc.) in future decades in Tamil Nadu[18]. Urban flooding is another significant problem identified, with Chennai and its suburban areas expected to be worst affected by flooding because of improper drainage and encroachment of water bodies and waterways.[19] The TNSAPCC attributes acute shortage of housing stock in urban areas to mushrooming of slums that are located in high climate and disaster risk prone areas. It calls for augmentation of housing stock in a sustainable manner, and particularly emphasizes the reduction of illegal sand mining for the creation of new housing stock through exploring the possibility of using alternate construction material in housing such as manufactured sand and fly ash.[20] It also directs the TNSCB to prioritize

[14] The private placement memorandum (PPM) includes critical aspects of the interest of investors, such as (i) policies and regulatory framework applicable to the fund and the projects to be financed, (ii) eligibility and prioritization criteria for selection of projects, including expected returns on investments, (iii) standards, responsibilities and minimum qualifications of the fund manager, (vi) risk mitigation measures, and (iii) governance and transparency responsibilities.

[15] The revised TNSF PPM received SEBI approval in Oct 2019. The original TNSF PPM was approved by SEBI in July 2018.

[16] This figure of INR 1,500,000,000 (Rupees one point five billion or Rupees one hundred and fifty crores) is documented in Government Order (MS) No. 135 dated 21 July 2017 as catalytic first loss capital (Class B Units).

[17] CMDA was formed in 1974 as the nodal town planning authority for the city of Madras (now Chennai) and its suburbs.

[18] The TNSAPCC indicates that the mean annual temperature in the state has risen by 0.7 to 0.8ºC in the last five decades (Annamalai et.al., 2011), and that the state is experiencing more dry days than wet days every year (Guhathakurta, 2011) while the Indian Meteorological Department reports that there has been a significant increase in frequency of heavy precipitation events. Over the next several decades, the already hot climate of Tamil Nadu is expected to get even hotter, with an average increase of 1oC in the next 15 years. Researchers anticipate that extreme rainfalls will become more common (Down to Earth, 2019) meaning increased number of wet days, but with a reduction in number of wet days. Tamil Nadu has been hit by about 32 cyclonic storms between 1891 to 2006 of which 30 were severe cyclonic storms. The total number of cyclonic storms hitting the Tamil Nadu coast increased to 44 by 2011, an increase by 37.5 percent between 2006 and 2011.

[19] The TNSAPCC indicates that there is a distinct interannual and spatial variability in rainfall across the state, with the western and southern part receiving the maximum rainfall. Due to the rising heat, the intensity of cyclones is also projected to increase in the form of high cyclonic wind speed. The sea level rise is also projected to increase by 0.19- 0.73m.

[20] It is estimated that 20 percent of the urban population are living in slums. Among them 30 percent are living on river and watercourses margin below

the relocation of households currently residing in slums in low lying flood prone areas and consider the likely impacts of sea level rise on TNSCB tenements located very close to the sea coast including possible relocation. The Action Plan also calls for adherence to energy conservation building code (ECBC) guidelines in the plan approval process. Finally, climate resilience needs to play an important role in drawing up of the new Master Plan for Chennai due in 2026; these are lacking in the present Master Plan. The TNSAPCC also calls for crowding in private sector involvement in housing and infrastructure sectors through pooling resources and expertise for the up-scaling of climate change adaptation especially in terms of climate resilient and low carbon housing and infrastructure development, and mitigation initiatives by way of explicit incorporation of climate concerns in the project framework. The private sector is expected to bring in greater potential and competence for bringing innovative solutions and scale to the various models for climate change adaptation, shaped by the civil society and/or government institutions.

17. **There is a strong linkage and complementarity between the proposed Project and the DPFs.** The proposed DPFs support addressing structural constraints in the housing sector and introducing policy, regulatory, and institutional shifts that form critical building blocks for a well-functioning housing market. The proposed Investment Project focuses on strengthening key housing sector institutions to sustain and implement the reform efforts that are introduced by the GoTN and supported under the first DPF, and to deepen and expand the reform measures which will be considered under the second DPF. More specifically, the proposed Project aims to enhance the institutional performance and capacity to increase the supply of affordable housing, by crowding in the private sector and strengthening the long-term sustainability of housing institutions, policy, and associated programs.

C. Relevance to Higher Level Objectives

18. **The World Bank Group's Country Partnership Framework (CPF) for India for FY18-22 (Report No. 126667-IN)[21], under its focus area 1 will support sectors and areas that are critical for facilitating growth and poverty reduction while promoting greater resource efficiency.** Green, livable, productive and resilient cities are an integral part of this agenda. Furthermore, the CPF recognizes that India could be missing out on the opportunities and gains associated with urbanization due to its 'messy' urban growth characterized by rapid urban sprawl, outdated land use regulations, low level of infrastructure investments, and dysfunctional housing markets. The CPF highlights the need to address these challenges while leveraging private finance and strengthening public sector institutions; these are two catalytic areas that will enable the delivery of results at scale. The proposed operation aims to strengthening institutions, regulations and financing in the housing sector, which are much needed in a fast-growing urban area, while supporting efforts to enhance state capabilities to change the business-as-usual model to a more sustainable path. Challenges facing the housing sector in Tamil Nadu are also found in other states in India, and the lessons can be shared with other states and the proposed policy interventions can potentially be replicated. Finally, the proposed operation is also aligned with the CPF's focus on impact multipliers by promoting increased private sector participation in the affordable housing sector.

Mean Flow Levels. These hutments will be submerged by floods or flash floods causing loss of lives or properties. Tamil Nadu slum Clearance Board has constructed 7500 tenements near seashore in the urban areas. In case the sea level rises in the long run by 1m, these scheme areas will get inundated and surrounded by seawater. Also, haphazard and unregulated developments are causing environmental degradation and congestion and thereby urban heat and resultant impact on the climate change. Large-scale urbanization causes mass removal of green cover, which affects the holding capacity of the soil causing floods during rains. The hilly regions are affected with landslides.

[21] CPF dated July 25, 2018 discussed at the Board on September 20, 2018.

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

To strengthen the housing sector institutions of Tamil Nadu for increased and sustainable access to affordable housing.

PDO Level Indicators

- Number of units developed through a public-private market solution.
- Proportion of households benefitting from public support that are screened through an affordability tool.
- Proportion of TNSCB's EWS/LIG housing projects adopting the sustainability frameworks.
- Number of sectors integrated in CMDA's geo-spatial information system for improved land use planning.

B. Project Components

19. **The proposed Project will support innovations in housing finance and the strengthening of housing sector institutions in Tamil Nadu to expand access to affordable housing and improve the sustainability of housing institutions and programs.** It will support the newly created TNSF - an innovation in housing finance in India - by providing an initial equity contribution towards mobilizing additional external financing. The TNSF is expected to act as a market maker to increase access to affordable housing through the financing of mixed-income and mix-use developments where middle-income units cross-subsidize low-income units, thereby creating a new asset class that does not exist yet as a market in Tamil Nadu. The proposed Project will also support institutional strengthening and capacity building of key institutions including TNSCB, the state's main provider of affordable housing; CMDA, the land use planning authority for the CMA[22]; and TNIFMC, the asset management company of TNSF.

Component 1. Enabling private sector participation in affordable urban housing provision (Total cost: US$57 million of which IBRD financing will be US$35 million)

20. **This component will provide equity (Class B shares) to TNSF for the implementation of affordable housing Subprojects.** The TNIFMC – which is legally mandated to manage the TNSF - will select and invest in eligible subprojects per an investment methodology and criteria acceptable to the Bank. Financing of subprojects will be through investments in legal entities, such as special purpose vehicles, that will develop the affordable housing projects. This component is expected to address a market gap in the housing finance sector by supporting private sector developers to structure and by co-financing eligible private or public-private projects that comprise EWS, LIG and middle-income group (MIG) that are commercially viable through cross-subsidization but not sufficiently attractive to the current housing developers (or are deemed too risky). The equity contribution to TNSF is also expected to reduce the perceived risk and to ultimately contribute to a robust supply of affordable housing which can substitute highly subsidized publicly provided units in the long run. TNSF can only invest in commercially viable projects whereby the expected return may be lower due to inclusion of affordable housing compared to projects focusing exclusively on high- and middle-income housing. To achieve this, the TNSF has established an adequate governance framework and eligibility criteria to standardize, pilot and demonstrate affordable housing projects that are commercially viable, and thus attractive to private investors encouraging them to enter this segment. Each project will be evaluated and approved individually, based on a process described and adopted by the Fund's investment Manual (IM) which includes environmental, social and governance considerations and that

[22] The Chennai Metropolitan Area (CMA) is the fourth-most populous metropolitan area in India spread over 1189 square kilometers and a population of 8.6 million as per the 2011 Census.

has been reviewed and approved by the Bank (See Annex 3 for a financial analysis and regulatory and governance arrangements of the TNSF). There are currently two projects in the pipeline: a women's hostel and a rental project for industrial workers (see Annex 2 for more details).

Component 2. Strengthening Tamil Nadu's urban housing institutions for enhanced sustainability (Total cost: US$14.875 million IBRD funds)

21. **This component will finance technical assistance and capacity building support to state-level institutions and their programs.** Under this component, support will be extended to TNSCB, CMDA, and TNIFMC to improve their institutional performance and capacity, and to enhance the effectiveness of their programs and sustainability. This component will also support a program of knowledge exchange on development experience among India's states and between India and other developing countries, on the strengthening of the housing sector through the Lighthouse India program[23].

Sub-component 2.1: technical support to diversify and improve housing programs and planning solutions

22. **Provide technical assistance to TNSCB**, including by: (i) improving the institutional and regulatory framework, and business procedures for housing institutions;, (ii) enhancing sustainability of the existing housing programs; (iii) improving targeting and eligibility criteria; (iv) designing new housing programs; (v) promoting housing finance for EWS households from affordable housing finance companies, small finance banks, non-banking financial companies, and microfinance institutions; and (vi) carrying out additional technical support to improve the performance of housing institutions (see Annex 2 for details).

23. **Technical assistance support to CMDA will focus on strengthening its analytical and coordination capacities for the preparation of the new Master Plan for Chennai.** This would include support for: the development of a comprehensive vision for the future urbanization of Chennai plugging into and supporting the proposed Chennai City Partnership program; strengthening of urban planning systems (i.e. setting-up a multi-sectoral geo-spatial data system); the preparation of guidelines that support the Master Plan process; capacity building for establishing modern and inclusive land use planning systems; and twinning with an international city on metropolitan planning functions (see Annex 2 for details).

Sub-component 2.2: technical assistance support for innovations in affordable housing finance

24. **Provide technical assistance to TNIFMC, by supporting tools and innovations towards leveraging external capital in affordable housing and providing capacity building support to pilot the implementation of these tools.** Areas of intervention will include, inter-alia, undertaking social impact and market assessments, building in-house technical capacity for identifying and structuring potential pipeline projects, supporting green certified housing development, undertaking outreach activities to the market and other states, and building capacities for effective implementation of the Environmental, Social and Governance Management Systems (ESMS) framework (see Annex 2 for details).

25. **Front end fees.** The front-end fee is US$0.125 million; this will be fully financed through IBRD funds.

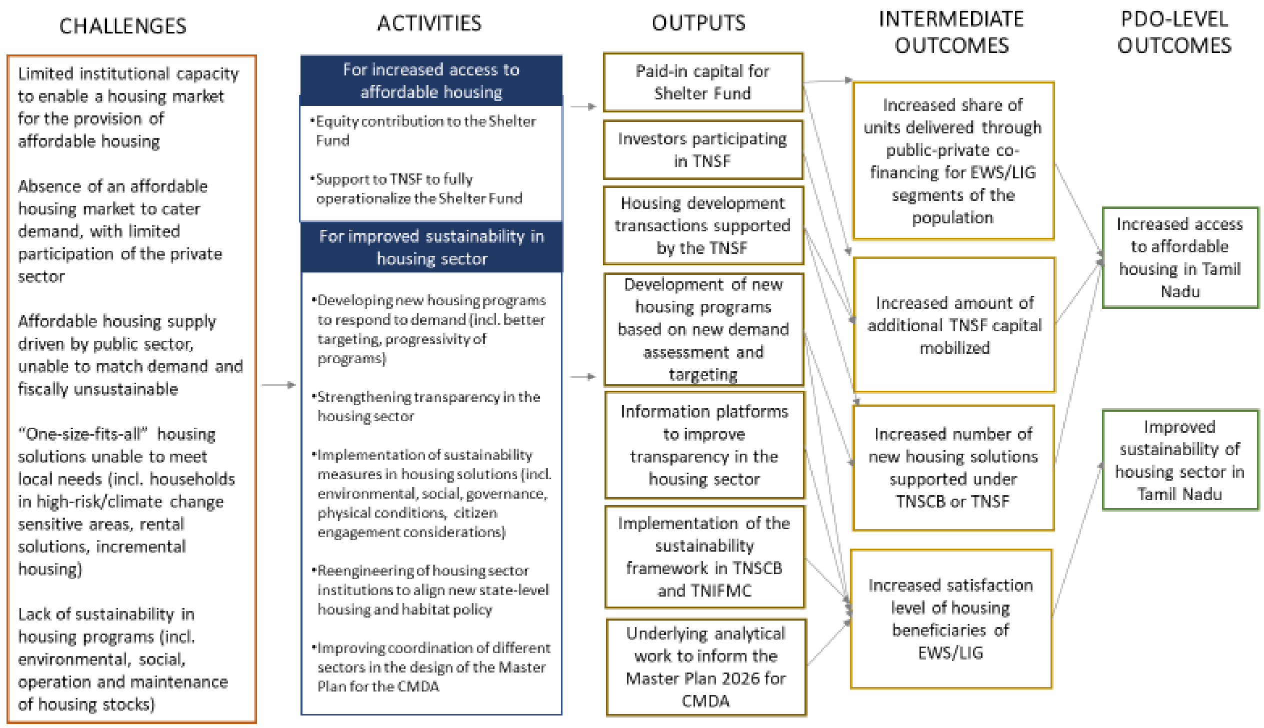
C. Project Beneficiaries

26. The primary beneficiaries of the Project are the GoTN institutions that will be strengthened to deliver improved affordable housing solutions, namely TNSF, TNIFMC, TNSCB and CMDA. The LIG and EWS segments of the population will be the indirect beneficiaries. The proposed support to the TNSF is likely to increase the supply of affordable housing, both ownership and rental solutions, with mixed income development and adequate urban

[23] The Project will support all costs related to GoTN involvement only.

amenities. Strengthening of housing institutions will enhance the sustainability measures for LIG/EWS beneficiaries, which will improve targeting and demand assessment, enhance community engagement and livelihood support, strengthen livability and urban environmental design, and improve climate resilience, ultimately contributing to the improved quality of life for the beneficiaries of government housing programs.

D. Results Chain



E. Rationale for Bank Involvement and Role of Partners

27. **The Bank is well placed to support the government's efforts to increase and improve affordable housing provision by drawing on its extensive experience in supporting national and sub-national governments worldwide.** The Bank has supported the design and implementation of projects focused on catalyzing external finance for slum upgrading and housing provision across many countries (most recently in the Philippines, Brazil, Ghana, Kenya, China and Indonesia). The proposed project also builds on the lessons learned during several decades of different technical assistance engagements in projects globally, including the need for a holistic intervention, and strengthening of the urban and housing institutional architecture.

28. **The proposed Project builds on the past urban sector experiences of the World Bank, and coordination and consultations with development partners who are active in housing and urban development, in Tamil Nadu.** It builds on the rich experience and legacy of working in the housing and urban sector in Tamil Nadu since 1977 initially through the sites and services program, and then through over three decades of urban sector lending operations. The Second and the Third Tamil Nadu Urban Development Projects[24] helped GoTN operationalize the

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[24] The Second Tamil Nadu Urban Development Project (TNUDP) supported urban and governance reforms in the state, and operationalization of the Tamil Nadu Urban Development Fund (TNUDF). The Third TNUDP was a financial intermediary (FI) operation with aim of mobilizing resources and securing sustainable funding sources for TNUDF for increased urban infrastructure investments, strengthening capacities of urban local bodies to improve service provision, and incentivizing investments in low-income neighborhoods. TNUDF was an innovation and setup as a municipal fund in Public-Private Partnership (PPP) format between GoTN and private sector domestic financial institutions – the first of its kind in India. TNUDF has played an important role in fostering greater access to financial markets by ULBs in Tamil Nadu while maintaining an outstanding track record on loan repayments. It has also undertaken many pioneering transactions including first pooled finance municipal bond issuance in India, promoting capital contributions from beneficiaries of urban projects

Tamil Nadu Urban Development Fund, the first public private partnership initiative in India to provide long term debt for municipal infrastructure on a non-guarantee mode and leverage sustainable financing for urban infrastructure development. The proposed operation will coordinate with active development partners in the housing sector in the state including the Asian Development Bank (ADB) and the Gesellschaft für Internationale Zusammenarbeit (GIZ).[25] There is also ongoing partnership and collaboration with the UKAid from the Department for International Development (DFID) to strengthen the analytical underpinning for the second DPF tranche through an Externally Financed Output to the Bank.

29. **The proposed project supports the proposed GoTN-World Bank Chennai City Partnership.** The GoTN and the World Bank are currently discussing a long-term programmatic intervention towards strengthening policies, governance and institutional arrangements to support the enabling framework for improved planning and integrated service delivery. This multi-sectoral partnership is proposed to encompass urban governance, municipal finance, resilience, sustainable water resource management, and sustainable solution for urban mobility. The proposed TNHHDP supports the integration and coordination of housing programs with the broader spatial development and sectoral plans supported under the Chennai City Partnership.

F. Lessons Learned and Reflected in the Project Design

30. **The proposed project draws on the extensive experiences and reviews of similar housing sector engagements in Mexico, Brazil, Indonesia and others, and recent DPF operations in India.** This proposed IPF operation follows the experiences of similar sectoral DPF series in India and elsewhere by providing a comprehensive technical assistance and capacity building component to support GoTN's reform efforts, which are supported by the Bank's two-tranche DPF operations. This would ensure the long-term sustainability and adequate implementation of policy measures. Lessons from international housing sector engagements that influenced the design of the proposed project include technical assistance support required for facilitating the redefinition of the role of government from that of a provider to an enabler of a functional and efficient housing market. Global experience shows that the public sector alone cannot address a growing housing demand, especially as countries undergo rapid urbanization, and so the focus must be on creating an environment and a market in which the private sector is incentivized to gradually go down market to affordable housing segments. Experience also shows that an initial catalytic pilot is required to incentivize the private sector to enter this segment, which could be ease of access to finance and/or land, strengthening of governance mechanisms, and regulatory and market incentives such as inclusionary zoning and a density bonus[26] (see Annex 4 for an overview of mixed income housing case studies and lessons).

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

31. **A State-level inter-agency Steering Committee will provide overall strategic oversight and guidance to all activities supported under the proposed IPF.** The Steering Committee will be chaired by the Principal Secretary, Housing and Urban Development Department (HUDD) with key agencies in the housing sector and

as a financing mechanism, and PPPs at municipal level.

[25] ADB is currently preparing a proposed US$215 million project focusing on relocation and rehabilitation of households living in extremely vulnerable and high-risk areas in non-CMA urban centers in Tamil Nadu, development and implementation of a housing model for industrial workforce and piloting new models of affordable housing, and regional planning. The GIZ supported the Housing Urban Development Department (HUDD) Government of Tamil Nadu to strengthen the analytical base of the proposed Tamil Nadu Housing and Habitat Policy; currently, GIZ is in the process of developing an intervention on housing and planning component under their Sustainable Urban Development in Smart Cities project focusing on non-CMA urban centers.

[26] Many countries have introduced inclusionary zoning requiring a certain percentage of housing development to be allocated for affordable housing, or density bonus to cross-subsidize the provision of affordable housing for mixed income development project.

other relevant departments participating as members[27]. (See Annex 1 for detailed implementation arrangement).

32. **The TNIFMC will be the implementing agency of Component 1.** TNIFMC will be responsible for all financial management, environment and social management, and reporting activities linked to this component. TNIFMC has a track record in managing the TNIF[28] and managing the TNSF. TNIFMC has developed an investment management process applicable for all investments funded by the Shelter Fund, describing the eligibility criteria, methodology for screening and the process for pre-selection of projects, and a financial model to assess the project's financial viability. Annex 3 includes a detailed assessment of the TNIFMC as per the IPF Policy.

33. **The TNSCB will be the nodal implementing agency of Component 2, while TNSCB, CMDA and TNIFMC will implement and be responsible for their respective activities.** As the nodal implementing agency, TNSCB will have the additional responsibility of coordinating with other agencies for reporting, preparing annual work programs, budgets, and Procurement Plans; reviewing fund execution; and overseeing quarterly review meetings. TNSCB will set up a Project Management Unit (PMU) consisting of a project director, and specialists in financial management, procurement, monitoring and evaluation, social development, gender, and environment, and other support technical staff with the overall responsibility for project management and execution of activities to be undertaken by TNSCB. CMDA and TNIFMC will set-up dedicated teams for this component comprising of procurement, financial management and technical experts. TNSCB will assume direct responsibility for day-to-day project management, coordination, monitoring, and implementation of the component, in close coordination with CMDA and TNIFMC.

B. Results Monitoring and Evaluation Arrangements

34. **TNIFMC and TNSCB will coordinate monitoring and evaluation (M&E) data for Component 1 and Component 2, respectively. They will submit consolidated progress reports to the Bank.** TNIFMC will submit consolidated reports to the Bank on the progress of the Shelter Fund on a half-yearly basis, specifically on project indicators linked to the equity contribution to the Shelter Fund and on the capacity building activities supporting the TNIFMC. The PMU within TNSCB will take the lead role in monitoring of project performance and implementation, including environmental and social management, and facilitate day-today decisions for implementing the project. The PMU within TNSCB will be responsible for inter-institutional coordination, consolidating individual reports from TNIFMC, TNSCB, and CMDA, and submitting them to the Bank on a quarterly basis. In addition, independent assessments will be carried out by at key milestones (such as at midterm and at project closing).

C. Sustainability

35. **The key focus of activities supported by the proposed IPF is to improve the sustainability of the housing sector in Tamil Nadu.** Equity contribution to the TNSF targets an increased private sector participation in affordable housing, which will not only increase housing supply for LIG/EWS, but also leverage private sector finance for an asset class of mixed-income and mixed-use projects that could gradually become the standard in the affordable housing market in Tamil Nadu. TNSF could receive further contributions from other multilaterals, as well as public and private regulated financial institutions to sustain the business model. TNIFMC has developed an investment management process captured in the IM applicable for all investments funded by the Shelter Fund. The IM describes the eligibility criteria, methodology for the screening and the process for the pre-selection of projects including a negative list to screen out projects located on land where the resettlement process cannot be

[27] The Committee will include representation from HUDD, TNIFMC, TNHB, TNSCB, CMDA, and the Finance Department.
[28] TNIFMC is owned by the Government of the State of Tamil Nadu (49%), and state and private financial institutions (51%). The Board is comprised of: 3 Government Directors (to be reduced to 2), 2 Independent directors and 1 Shareholder nominee (NHB).

assessed or confirmed to have occurred in adherence to the principles of OP 4.03. TNIFMC has developed a financial model to assess the projects' financial viability and ensure that the projects meet the criteria and principles established in the PPM.[29] The IM includes a section with the applicable ESMS framework that will govern project selection, approval and implementation from the environmental, social and governance perspectives. Institutional strengthening of housing institutions focuses on improving the sustainability in designing and implementing their housing programs and planning process. In particular, the component will support the development of the institutional set up and the procedures to align better with the new housing policy and direction, to support multiple measures to improve sustainability, including improved demand assessment and program design, stakeholder engagement, livelihood support, improved maintenance and operation, and urban design and environmental management that enhances climate consideration and resilience.

36. **The proposed project is expected to build climate resilience and lead to positive climate change impacts.** Climate change will disproportionately affect the most vulnerable. The project aims to enhance private investments in affordable housing that consider climate change impacts especially extreme weather patterns. The TNSF ESMS requires an upfront climate risk screening that feeds into both the project selection process and the subsequent subproject design improvements for all TNSF projects, regardless of the source of funding. The ESMS risk screening tool ensures that subprojects need to incorporate green building and/or climate responsive architecture design. TNIFMC, the asset manager of TNSF, has a corporate commitment that all subprojects applying to TNSF and TNIF would require a Green Building Certification by IFC-EDGE[30] or equivalent. Component 2 supports TNSCB and CMDA on undertaking activities to strengthen climate and disaster resilience. The TA support to CMDA includes undertaking a climate and disaster resilience study and geo-spatial mapping to feed into Master Plan 2046 preparation, as well as undertaking analytics on river drainage basin and flood plain mapping. These will ensure that the future growth trajectory of Chennai will aim to strengthen disaster and climate resilience of the city. The TA support to TNSCB includes the preparation of resilient urban design guidelines, and environment and climate resilience guidelines for TNSCB's housing program. These guidelines will address climate and disaster screening for site selection, use of energy efficient products, implementation of ECBC norms, use of resilient construction material including manufactured-sand and fly ash, plantation of trees to reduce heat island effects, rainwater harvesting, and green certification of housing units. Overall, improved access to housing is likely to also result in access to improved water supply and improved sewerage, leading to an overall improvement in public health outcomes and build the climate adaptability of the most vulnerable populations.

37. **Female headed households in Tamil Nadu not only own about half of male headed households' income, but they also pay higher amount of rent with respect to consumption.** In Tamil Nadu, there is a higher share of households headed by females in both, urban and rural areas, compared to the national average, at 17 percent and 12 percent, respectively. However, in Tamil Nadu fewer female headed households own their dwellings compared to male headed households, with a greater percentage of female headed households renting (according to Annex 4). Moreover, female headed households pay higher amount of rent with respect to consumption than male headed households, with 42 percent and 27 percent of income used in rent, respectively. This is linked to the fact that female headed households receive less financing for a housing loan or mortgage than a male headed household. In addition, female headed households experience some disadvantages compared to male headed

[29] To raise funds in the market, all AIFs are required to issue a PPM. The PPM includes critical aspects of the interest of investors, such as (i) policies and regulatory framework applicable to the fund and the projects to be financed, (ii) eligibility and prioritization criteria for selection of projects, including expected returns on investments, (iii) standards, responsibilities and minimum qualifications of the fund manager, (vi) risk mitigation measures, and (iii) governance and transparency responsibilities.

[30] The Excellence in Design for Greater Efficiencies (EDGE) is a green building certification system developed by IFC focused on making new residential and commercial buildings more resource-efficient. EDGE is comprised of a web-based software application, a universal standard and a certification system. EDGE certification is given to those projects that achieve a 20 percent projected reduction in use of energy, water and embodied energy in materials compared to conventional buildings.

households in terms of housing conditions.

38. **Technical assistance under Component 2 will incorporate provisions in the policies and framework on female headed households' access to affordable housing** (at equitable rent). The project will help develop a methodology and guidelines for enhanced targeting and eligibility as well as outreach to poor female headed households eligible for subsidized housing. Actions to strengthen the capacity of the TNSCB to target and serve vulnerable female headed households will be tracked through the following results indicators: (i) proportion of TNSCB's EWS/LIG housing projects adopting the sustainability frameworks; and (ii) proportion of EWS/LIG beneficiaries receiving government support that are Female Headed Households.

39. **The proposed Project will strengthen addressing the voice and needs of marginalized women, by supporting the implementation of inclusive design guidelines that are tailored to, and are responsive to female beneficiaries**. The new demand assessment that the TA component will support includes identifying risk and concerns related to domestic violence, security and safety, as well as the economic profile of the female members of households. This enhanced assessment, together with community consultations involving women and youth, will help to identify and incorporate adequate measures and interventions in the final housing delivery on layout design, provision of public amenities, and streetlighting.

40. **The proposed technical assistance will also support improved economic and employment opportunities targeted to female beneficiaries as part of the revitalized TNSCB housing program**. The Project will identify opportunities for income generation for women's groups, provide necessary skills training and education, and facilitate the employment of female beneficiaries through information access or access to finance for small business needs. The proposed project will also explore the prospects for involving existing women's groups in improving the operations and maintenance of housing units. These actions will be tracked through the results indicator: proportion of households where TNSCB undertakes livelihood related activities for females.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

41. **TNSF has completed a significant amount of upstream technical design and has prepared an IM.** As the sponsor of TNSF, TNHB has setup the legal structure for TNSF to include the indenture of trust[31] and the SEBI registration. In turn, the trustee (SBI CAPS) has appointed TNIFMC (which is currently managing TNIF, a similar fund) as the investment manager. Since TNSF and TNIF have certain design elements in common – concept preparation, design, financial analysis, safeguards assessment, legal due diligence, fund accounting, and process workflow – TNSF has benefitted from the technical investments that have been made for TNIF; see Annex 3 for further details. There are also specific housing related tools and instruments that TNSF has and continues to develop. The financial model will help guide TNSF in optimizing the level of cross-subsidization across EWS/LIG and MIG, so that it can meet its housing and financial objectives.

42. **TNIFMC has developed an operational framework to screen, appraise and approve proposed projects for funding under TNSF.** In addition, TNIFMC has also developed an investment management process applicable for all investments funded by the Shelter Fund. The operational process of the fund was modelled on a private sector investment fund to assess, select and monitor eligible infrastructure projects for financing. The IM details the investment management process, including the eligibility criteria, methodology for screening, and the process for pre-selection of projects. Once the due-diligence to ensure project compliance with the eligibility criteria is completed, the proposals will be presented to the Investment Committee (IC) for approval. The IC consists of

[31] Indenture of trust is a legal document issued to subscribers or lenders and describes key terms such as the pledge, promises, representations, covenants, and other terms of the offering.

professionals from the public and private sectors. It is completely independent and has no role in deal origination, appraisal or the day to day operations of the fund.

43. **TNIFMC's operational framework also includes a robust ESMS framework.** The ESMS framework will apply for all projects supported by TNSF regardless of the source of funding.

(i) Financial analysis

44. **TNSF's hurdle and target rate of return can be complemented by the private sector leverage that it will bring to housing markets.** As per TNSF's registration documents, its hurdle rate of return is 6 percent and its target rate of return is 12 percent. Annex 3 provides the detailed distribution waterfall analysis across the different types of share classes. In addition to this financial return, TNSF will also leverage other sources of capital. On the construction side, TNSF will incorporate developer equity and debt from the banking sector for housing transaction SPVs. A further enabling private sector financing modality – or maximizing finance for development – will be the mortgage offtake from TNSF funded housing units. Table 1 shows the financial returns of the first five years of TNSF. The total estimated TNSF contributions to the end of June 2025 are US$150 million; these are expected to leverage US$150 million of additional capital for housing in TN. Table 1 shows the results of the financial analysis.

Table 1: Financial IRR and NPV Estimates

USD millions, unless otherwise noted	**FY2020**	**FY2021**	**FY2022**	**FY2023**	**FY2024**	**FY2025**	**FY2026**	**Total**
	Year 0	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
IBRD Disbursements		3.50	5.25	5.25	10.50	10.50	n.a	35.00
TNHB Disbursement		2.10	3.15	3.15	6.30	6.30	n.a.	21.00
Other Investors		0.00	18.80	18.80	28.20	28.20	n.a.	94.00
Total TNSF Contributions		5.60	27.20	27.20	45.00	45.00	n.a.	150.00
Developer Equity [25%]		2.80	13.60	13.60	22.50	22.50	n.a.	75.00
Total Equity		8.40	40.80	40.80	67.50	67.50	n.a.	225.00
Debt Raised [25:75]		2.80	13.60	13.60	22.50	22.50	n.a.	75.00
Value Housing Transactions		11.20	54.40	54.40	90.00	90.00	n.a.	300.00
Units Developed [t+1] (number)			186	907	907	1,500	1,500	5,000
Lower Income HHs (Deciles 6 & 7)			37	181	181	300	300	999
Individuals Housed (number)			651	3,175	3,175	5,250	5,250	17,500
Housing Sales Revenue [t+1]			12.54	60.93	60.93	100.80	100.80	336
Financial IRR (%)	12.0%							
Financial NPV [10%]	3.88							

Notes: IRR=Internal Rate of Return. NPV=Net Present Value. Assumptions: developer equity is 25 percent of each transaction, debt to equity ratio is 25:75. Price per square feet for housing units is INR 2,800 or USD 40.0. Commercial areas or green space costs incorporated into this estimate. Development of housing transactions take one year and each unit houses 3.5 people on average. Target rate of return of 12 percent used for IRR and NPV uses 10 percent discount rate. Year 6 housing transactions are not applicable as the IBRD project is scheduled to close in June 2025, although TNSF is expected to continue operations. TNSF has a declared term of ten years and is extendable by two additional years.

USD millions, unless otherwise noted	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	Total
	Year 0	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	

(ii) Economic analysis

45. **The project seeks to improve the economic impacts for beneficiaries as well as for housing markets.** It is envisioned that the new units will improve the quality of life of the housing clients of TNSF transactions through good design principles, more green space in housing developments, improved tenure security, better maintenance of housing developments, green building certification, and lower flood risk. For housing markets, TNSF will contribute to the creation of a new housing investment asset class, propel more mixed income housing developments and provide more rental units from government supported housing.[32] TNSF will also be a lighthouse for other states in India to learn from. The marginal benefit from improved tenure security and lower flood risk on urban household consumption in India were estimated to assess additional benefits.[33] The marginal benefit from reduced flood risk on each beneficiary household produces an economic IRR of 12.3 percent and an economic NPV of US$4.55 million (refer to Table 3).

Table 2: Economic IRR and NPV Estimates

USD millions, unless otherwise noted	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	Total
	Year 0	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Household Housed (number)			651	3,175	3,175	5,250	5,250	17,500
Secured Tenure Marginal Effect			0.02	0.10	0.10	0.16	0.16	0.38
Improved Flood Risk Marginal Effect			0.02	0.09	0.09	0.15	0.15	0.35
Total Economic Benefit			0.04	0.19	0.19	0.31	0.31	0.73
Housing Sales Revenue			12.54	60.93	60.93	100.80	100.80	235.20
Financial and Economic Benefit			12.58	61.12	61.12	101.11	101.11	235.93
Economic IRR	12.3%							
Economic NPV	4.55							

Notes: IRR=Internal Rate of Return. NPV=Net Present Value. Target rate of return of 12 percent used for financial IRR and NPV uses 10 percent discount rate. Year 6 housing transactions are not applicable as the IBRD project is scheduled to close in June 2025, although TNSF is expected to continue operations. TNSF has a declared term of ten years and is extendable to two additional years.

B. Fiduciary

(i) Financial Management

46. **Financial Management**. The project has adequate financial management arrangements, acceptable to the Bank, to account for and report on project expenditures. Component 1 is a Financial Intermediary (FI) financing, while Component 2 will finance goods, consulting, non-consulting services, training and operating costs to be incurred by three agencies (TNIFMC, TNSCB and CMDA) which are existing legal entities, registered under the Companies Act or created under specific Acts of State Legislature. GoTN has made necessary provision for the project in its budget for FY2020-21. Based on the budget provision, funds will be drawn by each of the three

[32] Annex 6 provides examples of good design principles in mixed income housing development and Annex 4 provides a brief overview of the nascent REIT market in India.
[33] The estimated coefficients are INR 7,623 marginal benefit from secured tenure and the INR 6,977 marginal benefit from reduced flood risk on each beneficiary household.

agencies into their entity bank accounts for facilitating project related payments under Component 2, while the equity contribution from GoTN to the TNSF-II under Component 1 will be routed through the Tamil Nadu Housing Board (TNHB).

47. All three implementing agencies have acceptable internal control, payment and accounting processes and systems. TNIFMC and CMDA have IT-based entity accounting systems, while TNSCB follows a manual accounting and reporting system. Separate account codes/ledgers will be opened to account for and report on the project specific expenditures in the existing systems, which will facilitate activity-wise reporting. TNSCB will consolidate the quarterly expenditure report from TNIFMC and CMDA for Component 2 and from TNHB for the equity investment in TNSF and submit a consolidated IUFR to the Bank on a quarterly basis. There is adequate staffing in the finance units at the head offices of the three agencies to manage the project; TNSCB may contract a dedicated finance staff to help coordinate and consolidate the IUFRs and to ensure timely audit of the project financial statements. The three agencies have different auditors, consistent with their legal framework. While TNIFMC is current in its entity audit, there is a lag of one year in the entity audit of TNSCB/CMDA. Accordingly, it has been agreed that a firm of chartered accountants, to be contracted by TNSCB, will audit the project expenditures incurred by TNSCB and CMDA under Component 2, and the project audit reports will be submitted within nine months of the end of the financial year. For Component 1, the use of alternative assurance procedures in lieu of normal project audit report is considered adequate. (Refer to Annex 1 for more details on financial management arrangements).

48. **Disbursement Arrangements.** The equity contribution by GoTN through TNHB under Component 1, will be treated as eligible expenditure for reimbursement (see Annex 3 for the FIF assessment and corporate governance arrangements in TNSF for oversight arrangements, both at the fund level and over its investments). For Component 2, the project will disburse on the basis of quarterly consolidated IUFR's to be submitted by TNSCB within 45 days of the end of the quarter through CAAA.

(ii) Procurement

49. **Procurement regulations.** Procurement for the project will be carried out in accordance with the World Bank's Procurement Regulations for IPF Borrowers for Goods, Works, Non-Consulting and Consulting Services, dated July 1, 2016 (revised in November 2017 and August 2018). Unless agreed with the World Bank, the Bank's Standard Procurement Documents, Requests for Proposals, and Forms of Consultant Contract will be used.

50. **Project Procurement Strategy for Development (PPSD).** The TNSCB has prepared a project procurement strategy for development (PPSD). Market analysis has been carried out for different packages of procurement and packages for Goods have been finalized based on the findings. Consultancy contracts have also been determined based on market research. Based on risks and the market analysis, the Procurement Plan for the first 18 months of project implementation has been prepared to set out the selection methods for the procurement of goods, and consulting services financed by the World Bank.

51. **Procurement capacity.** TNSCB and CMDA have prior experience of implementing World Bank supported projects ETRP and TNUDP-III, respectively. Fourteen TNSCB and two TNIFMC officials have so far attended the Training Program on World Bank Procurement Regulations at the Indian Institute of Management (IIM). Training of CMDA officials involved in procurement will be undertaken soon. TNSCB will coordinate with CMDA and TNIFMC to prepare the annual work programs, budgets, and Procurement Plans. Reporting by CMDA and TNIFMC will be routed through TNSCB who will share the consolidated reports with the World Bank.

52. **Risks and mitigation measures.** The following potential procurement risks have been identified: (i) limited capacity and inefficiencies resulting in delays in procurement and contract management; (ii) poor participation of

bidders/consultants in bidding; (iii) noncompliance with agreed procurement arrangements; and (iv) involvement of multiple line departments, which may delay decision making because of bureaucratic processes. Based on discussions held with the implementing agencies, the following risk mitigation measures will be implemented: (i) use of skilled procurement staff for handling procurement activities; (ii) provision of adequate publicity, slicing and packaging to maximize the interest of bidders; (iii) monitoring through Procurement Plan; (iv) training and support provided by the World Bank; (v) use of e-procurement; (vi) prior and post reviews by the World Bank and (vii) disclosure of procurement-related information.

C. Safeguards

(i) Environmental Safeguards

53. **The project will adopt a differentiated approach to environmental and social aspects. WB OP/BP4.03 (World Bank Performance Standards for Private Sector Activities) will apply to Component 1. For Component 2, relevant World Bank Safeguard Policies will apply.** OP 4.03 (Performance Standards) will apply for Component 1 given that: (i) TNSF is an established financial institution – regulated by SEBI – that operates on a commercial basis as a private sector financial institution; and (ii) TNSF will make investments with private sector co-financing or participation. All safeguard policies will apply to Component 2, as it will be implemented by public sector entities. As Component 1 carries the higher degree of potential adverse environmental and social impacts and a larger allocation of funds, this component drives the overall safeguard risk classification of the project. As such, the project is classified as FI-2 under BP4.03, based on the analysis of the eligibility criteria of potential sub-projects to be financed by the TNSF. Potential subprojects are generally expected to have limited adverse environmental or social risks or impacts, expected to be few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.

54. **An Environment, Social and Governance Management System (ESMS) framework has been developed for Component 1, and will be an integral part of the IM for TNSF.** The ESMS framework will be applicable to all projects supported by the Shelter Fund, regardless of the source of financing. The ESMS framework guides the screening, due diligence, appraisal, approval, and monitoring of the supported investment projects and includes mechanisms to identify and mitigate key ESG risks throughout the life cycle of the supported projects (from identification to exit). Implementation of the ESMS framework will be supported by enhanced capacity at TNSF to oversee and monitor the consistent and rigorous implementation of the ESG requirements by the supported projects. The detailed executive summary of the ESMS was disclosed in TNIFMC's website[34] on March 27th, 2020 as well as on the Bank website on March 27th, 2020.

55. **The World Bank's Safeguard Policies will apply within the context of activities financed under Component 2.** The TA will not finance preparation of investment programs or safeguards instruments to be implemented by TNSCB. TNSCB has an Environmental Cell whose staff coordinates all the environmental management activities in association with the site engineers of their various housing projects. TNSCB also has a Community Development Cell who is responsible for engaging with the community to identify eligible households for house, extend support during transition and to help restore their well-being at the alternate site. TA activities will further strengthen its environmental and social management capacity with a particular focus on managing environmental and social issues during planning, implementation and operation & maintenance of housing projects.

56. **A grievance redress mechanism (GRM) for environmental aspects is being developed.** This will ensure that the appropriate measures are undertaken to remedy the situation when any grievance is received. Relevant

[34] If the Investment Manual is not publicly disclosed, the ESMS portion will be disclosed separately.

information on environmental management will be disclosed in the websites of TNIFMC and TNSCB.

(ii) Social Safeguards

57. For Component 1, the ESMS includes a detailed process to carry out: (i) stakeholder consultations and dialogue for every investment; and (ii) due-diligence for review of the process of land acquisition[35] applicable for all projects and screening criteria to rule out the financing of projects which are located on land where the resettlement process cannot be assessed or confirmed to have occurred in adherence to the principles of OP 4.03 (regardless of the source of financing) prior to submission for support from the fund.. All projects approved for financing will be legally mandated to apply the environment and social requirements stipulated in the ESMS through the Investment Agreements.

58. Component 2 activities will contribute positively to building the sector's capacity in addressing social sustainability issues; as such, no adverse social impacts are anticipated. The Bank will provide clearance to the terms of reference for all activities to ensure that the outputs are aligned with the World Bank safeguard policies[36].

(iii) Citizen Engagement

59. TNIFMC will ensure adequate citizen engagement under Component 1 by preparing and implementing the stakeholder engagement plan, as well as by adopting integrated grievance redressal mechanism. The ESMS provides the detailed methodology for citizen engagement and grievance redress. For Component 2, TNSCB's social sustainability and grievance management framework, and the resilient urban development framework provide a detailed guideline for extensive stakeholder engagement, citizen feedback and consultation during the planning, implementation and operation and maintenance of all housing projects. TNSCB has also set up a Stakeholder Consultation Platform to ensure that all TNSCB projects are consulted with stakeholders before finalizing project details, as well as during O&M. TNSCB will also consolidate existing fragmented grievance management systems under the project, and establish an integrated grievance redressal system in line with the social sustainability and grievance management framework. Component 2 will support the implementation of adequate citizen consultation, as well as the establishment of an integrated grievance mechanism. The results framework includes an indicator to monitor the progress of implementation of citizen engagement.

(iv) Grievance Redress Mechanisms

60. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

[35] Ensuring that projects meet the Land and Acquisition and Involuntary Resettlement Standard (S#5).
[36] In this case, a separate ESMF for the TA will not be required.

V. KEY RISKS

61. **The overall risk to achieving the PDO is rated as *Moderate.*** All risk categories in the SORT (see Data Sheet, are rated either Moderate or Low, except for Environmental and Social risks, which are rated Substantial). While the COVID-19 crisis is expected to have a substantial impact on the economic growth in India and Tamil Nadu, the macroeconomic risk to achieving the objective of the project is assessed as low.

62. ***Environmental and social risks.*** The purpose of the IPF is to overall support strengthening of institutions that meets the international standards of environmental and social sustainability. Given the nature of risks associated with component 1 primarily related to availability of land free of encumbrances and litigation, compliance with labor laws, health and safety aspects, construction related impacts, among others, a substantial risk rating has been accorded. Component 2 has low risks associated given the nature of technical assistance and capacity building interventions. The risk will be mitigated by ensuring effective implementation of the ESMS, building in-house capacity in TNIFMC to operate the ESMS, and soliciting World Bank approval on terms of reference of all consulting activities undertaken through the technical assistance component.

VI. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY: India
Tamil Nadu Housing and Habitat Development Project

Project Development Objectives(s)

To strengthen the housing sector institutions of Tamil Nadu for increased and sustainable access to affordable housing.

Project Development Objective Indicators

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Increased Access to Affordable Housing in Tamil Nadu							
Number of units developed through a public-private market solution (Number)		0.00	0.00	1,050.00	2,880.00	4,015.00	5,000.00
Increased Sustainability of Affordable Housing in Tamil Nadu							
Proportion of households benefiting from public support that are screened through an affordability tool (Percentage)		0.00	0.00	20.00	50.00	70.00	80.00
Proportion of TNSCB's EWS/LIG housing projects adopting the sustainability frameworks' (Percentage)		0.00	20.00	40.00	60.00	70.00	70.00
Number of sectors integrated into CMDA's geo-spatial		0.00	1.00	3.00	4.00		4.00

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
information system for improved land use planning (Number)							

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Enabling private sector participation in affordable urban housing provision							
Additional external finance leveraged in TNSF transactions (debt and developer equity) (Amount(USD))		0.00	15.00	55.00	85.00	120.00	150.00
Number of housing development transactions supported by the TNSF (Number)		0.00	2.00	4.00	6.00	8.00	10.00
Share of rental housing as a percentage of TNSF portfolio (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00
Strengthening of Tamil Nadu’s urban housing institutions for enhanced sustainability							
Proportion of TNSCB housing projects developed responding to a comprehensive demand assessment and transparent targeting mechanism (Percentage)		0.00	0.00	20.00	50.00	70.00	80.00
Proportion of at-risk households participating in		0.00	40.00	50.00	60.00	70.00	70.00

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
citizen consultations and livelihood related activities as per the new social sustainability framework of TNSCB dis-aggregated by gender (Percentage)							
Proportion of TNSCB housing projects that are gender audited (Percentage)		0.00	10.00	50.00	60.00	70.00	90.00
Proportion of households where TNSCB undertakes livelihood related activities for females (Percentage)		0.00	30.00	40.00	50.00	60.00	60.00
Proportion of EWS/LIG beneficiaries receiving government support that are Female Headed Households (Percentage)		4.00	5.00	6.00	8.00	8.00	8.00
Proportion of new TNSCB housing projects that adopt new operation and maintenance mechanism (Percentage)		0.00	0.00	20.00	50.00	75.00	75.00
Proportion of grievances resolved (Percentage)		40.00	60.00	70.00	70.00	70.00	70.00
Core sectors whose citywide analytics feed into the land use planning process of CMDA (Number)		0.00	1.00	4.00	4.00	6.00	6.00
Proportion of identified stakeholders included in		0.00	40.00	100.00			100.00

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
consultations for preparation of third Master Plan for Chennai (Percentage)							
Proportion of housing projects under TNSF that receive green certification (Percentage)		0.00	75.00	75.00	75.00	75.00	75.00

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Number of units developed through a public-private market solution	Number of units refer to units constructed under TNSF for purpose of ownership or renting. One rental unit is assumed to have four beds. A public-private market solution refers to a solution that has some form of private sector contribution in form of equity or debt, or management responsibility. All targets are cumulative.	Half yearly	TNSF M&E reports	TNSF reporting	TNIFMC
Proportion of households benefiting from public support that are screened through an affordability tool	1. Affordability tool refers to the tool that TNSCB will develop as part of TA activities to support implementation of the Sustainability Framework to arrive at a best match between household characteristics of beneficiaries and housing solutions provided by TNSCB. 2. Public support refers to any development that is fully financed by government sources or where government enters into a PPP modality for delivery 3. No. of households benefiting from housing solutions provided by TNSCB screened through affordability tool in a year / No. of housing solutions provided by TNSCB in a year x 100	Half-yearly	TNSCB M&E reports	TNSCB	TNSCB
Proportion of TNSCB's EWS/LIG housing projects adopting the	1. No of TNSCB's EWS/LIG new housing projects adopting the sustainability frameworks in a year / No of TNSCB's EWS/LIG	Quarterly	TNSCB M&E	TNSCB reporting	TNSCB

sustainability frameworks’	new housing projects executed/contracted out in a year * 100 2. EWS and LIG to be defined as per prevalent (Government of India) GoI norms for PMAY-U or subsequent norms issued by MoHUA		reports and TNHHDP QPR submitted by TNSCB		
Number of sectors integrated into CMDA's geo-spatial information system for improved land use planning	Sectoral inputs from concerned government department and/or agencies could be on, inter-alia, housing, mobility/transportation, water/wastewater, flooding/drainage, resilience feeding into CMDA's land use planning	Quarterly	CMDA M&E reports	CMDA reporting through TNHHDP QPRs prepared by TNSCB	CMDA

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Additional external finance leveraged in TNSF transactions (debt and developer equity)	1. External finance refers to all contributions (debt and equity) made to TNSF excluding GoTN and the World Bank. It will include other bilateral/multi-lateral financing institutions' contributions. 2. Targets are cumulative.	Half-yearly	TNSF M&E reports	TNSF's reporting	TNIFMC
Number of housing development transactions supported by the TNSF	1. Transactions refer to all successful transactions undertaken by TNIFMC relating to TNSF. Successful transactions are those approved by the TNSF Investment Committee. 2. Targets are cumulative.	Half-yearly	TNSF M&E Reports	TNSF's reporting	TNIFMC
Share of rental housing as a percentage of TNSF portfolio	1. Rental housing refers to public, private or PPP rental accommodations that have been partially/fully financed under TNSF. 2. Calculations to take cumulative values of rental and ownership units constructed under TNSF. For rentals, one rental unit = 4 beds.	Half-yearly	TNSF M&E reports	TNSF's reporting	TNIFMC
Proportion of TNSCB housing projects developed responding to a comprehensive demand assessment and transparent targeting mechanism	1. No of Housing Project developed by TNSCB responding to a comprehensive demand assessment and transparent targeting mechanism in a year / No of Housing Projects developed by TNSCB in a year * 100	Quarterly	TNSCB M&E Reports	TNSCB’s reporting	TNSCB

	2. TNSCB housing projects refer to all projects developed or/and implemented by TNSCB in the previous 12 months. 3. Demand assessment and transparent targeting mechanisms refer to demand assessment methodology to be developed and adopted by TNSCB under the TA component.				
Proportion of at-risk households participating in citizen consultations and livelihood related activities as per the new social sustainability framework of TNSCB dis-aggregated by gender	1. No. of at-risk households participating in citizen consultations and livelihood related activities in a year / No of at-risk households housing solutions provided by TNSCB in a year x 100 2. If households are participating in citizen consultations and in consultations in livelihoods related activities, they will not be double-counted. 3. At-risk households are those perceived to be at-risk from climate and weather events or safety or health-related hazards, due to their location. 4. Citizen consultation are defined as those presented in the Social Sustainability Framework of TNSCB.	Quarterly	TNSCB M&E reports	TNSCB's reporting	TNSCB
Proportion of TNSCB housing projects that are gender audited	1. No of completed Housing Projects gender audited in a year / No of housing projects completed by TNSCB in a year x 100 2. Gender auditing will be done in line with the Gender Audit guidelines adopted or prescribed for piloting by TNSCB under the TA.	Quarterly	TNSCB M&E reports	TNSCB reports	TNSCB
Proportion of households where TNSCB undertakes livelihood related activities for females	1. No of at-risk households where TNSCB undertake livelihood related activities for females / No of at-risk households where TNSCB undertake livelihood related activity x 100 2. No. of at-risk households where TNSCB undertakes livelihood related activities will be defined by those who have been included in TNSCB interventions in the last 12 months. 2. Livelihood related activities will be defined as activities included under the Livelihoods Engagement Guidelines to be prepared by TNSCB under the TA. Until the guidelines are prepared, definition of livelihoods will be as per existing GoTN livelihood programs.	Quarterly	TNSCB M&E reports	TNSCB reporting	TNSCB
Proportion of EWS/LIG beneficiaries receiving government support that	1. The female head of household for project purposes is a person who is recognized as such by the household. She is	Quarterly	TNSCB M&E reports	TNSCB reporting	TNSCB

are Female Headed Households	generally the person who bears the chief responsibility for managing the affairs of the household and takes decision on behalf of the household. The head of household need not necessarily be the oldest male member or an earning member, but may be a female or a younger member of either sex. 2. No. of tenements allotted to Female Headed Households by TNSCB in a year / No. of tenements allotted by TNSCB in a year x 100				
Proportion of new TNSCB housing projects that adopt new operation and maintenance mechanism	1. No of new housing projects completed that introduce operation and maintenance mechanism / No of new housing projects completed by TNSCB in a year * 100 2. O&M mechanism refers to TNSCB's O&M mechanism adopted under proposed ADB project , or in lack of thereof, O&M mechanisms developed under TA component.	Quarterly	TNSCB M&E Reports	TNSCB Reporting	TNSCB
Proportion of grievances resolved	1. No of grievances resolved by TNSCB / No of grievances received by TNSCB in a year x 100 2. Grievances will be defined as all grievances not directly related to issue of sale deeds for plots allotted in objectionable lands during MUDP and TNUDP)	Quarterly	TNSCB M&E Reports	TNSCB reporting	TNSCB
Core sectors whose citywide analytics feed into the land use planning process of CMDA	Core sectors include those having a direct impact on the Master Plan preparation, among others including housing, access/transportation, water/wastewater, flooding/drainage, open space, resilience.	Half-yearly	TNSCB M&E reports (generated from CMDA reporting)	CMDA reporting	CMDA
Proportion of identified stakeholders included in consultations for preparation of third Master Plan for Chennai	Stakeholders refer to all stakeholder identified in the Stakeholder Engagement Plan (SEP) to be prepared as part of Master Plan visioning exercise.	Quarterly	TNSCB M&E reports (generated from CMDA reporting)	CMDA Reporting	CMDA
Proportion of housing projects under TNSF that receive green certification	Green certification is as defined in TNSF's ESMS or included in TNIFMC's corporate commitments	Half-yearly	TNIFMC M&E report	TNIFMC report	TNIFMC

ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: India
Tamil Nadu Housing and Habitat Development

1. **Oversight.** An inter-agency Steering Committee will provide overall strategic oversight of the project and review implementation progress on a regular basis, while relevant agencies will implement activities described under each component. The Steering Committee will be chaired by the Principal Secretary, Housing and Urban Development Department (HUDD), Government of Tamil Nadu (GoTN) with key agencies in the housing sector and other relevant departments participating as members including HUDD, Tamil Nadu Slum Clearance Board (TNSCB), Chennai Metropolitan Development Authority (CMDA), Tamil Nadu Infrastructure Finance Management Corporation (TNIFMC) Tamil Nadu Housing Board (TNHB), and the Finance Department. It will provide strategic, high-level guidance to all project activities and will meet every six months to review project implementation and recommend necessary course corrections. The Project Director (currently Joint Managing Director, TNSCB) will serve as the Member Secretary. The Committee meetings will be facilitated by the TNSCB Project Management Unit (PMU) and TNIFMC.

2. **Implementing agencies.** The TNIFMC and TNSCB will have the primary responsibility for the implementation of Component 1 and Component 2, respectively.

3. **The TNIFMC will be the implementing agency for enabling private sector participation in affordable housing (Component 1).** As the asset manager of the Tamil Nadu Shelter Fund (TNSF), TNIFMC is the entity responsible for management of TNSF, including investment decisions, oversight over performance of investments, compliance with SEBI, investor relations and other corporate reporting obligations of the TNSF. The TNSF is a new Alternate Investment Fund (AIF) regulated by the Securities and Exchange Board of India (SEBI) [37] that will offer investors the possibility to invest in mix-use affordable housing projects that meet certain standards (eligibility criteria). Its main objective is to support public-private projects for the development of affordable housing.

4. **TNIFMC will be directly responsible for all financial management, safeguard, and reporting activities for Component 1.** TNIFMC, an existing and operating asset management company has a track record in managing the Tamil Nadu Infrastructure Fund (TNIF)[2], and managing the TNSF. TNIFMC has developed an investment management process applicable for all investments funded by the Shelter Fund, comprising the eligibility criteria, methodology for screening, the process for pre-selection of projects, and a financial model to assess the projects' financial viability and ensure that projects meet the criteria. All TNSF activities will adhere to the environment and social management system (ESMS) that has been agreed with the World Bank. TNIFMC has the in-house capacity to develop and use financial models for project finance investments, as well as in-house capacities to provide inputs financial management, legal, and Information Technology. TNIFMC will build capacity on social, environment and communication to ensure effective implementation of the ESMS.

5. **The TNSCB will be the nodal implementing agency of Component 2, while TNSCB, CMDA and TNIFMC will implement and be responsible for their respective activities.** TNSCB will assume direct responsibility for day-to-day project management, coordination, monitoring, and implementation of the component, in close coordination with CMDA and TNIFMC. It will be responsible for reporting, preparing annual work programs, budgets, and Procurement Plans; reviewing fund execution; and overseeing quarterly review meetings. TNSCB will set up a Project Management Unit (PMU) consisting of a project director, and specialists in financial management,

[37] Regulation 2(1) (b) of Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012.
[2] TNIFMC is owned by the Government of the State of Tamil Nadu (49%), and state and private financial institutions (51%). The Board is comprised of: 4 Government Directors (to be reduced to 2), 2 Independent directors and 1 Shareholder nominee (NHB).

procurement, monitoring and evaluation, social development, gender, and the environment, as well as other support technical staff. CMDA and TNIFMC will set-up dedicated teams for this component, comprising experts in procurement, financial management and technical aspects.

6. **CMDA's Master Plan department will serve as the key counterpart for activities to be undertaken by CMDA**, and will include planners, other technical experts, financial management, procurement, and GIS specialists, and support staff. CMDA was formed as the nodal town planning authority for the Chennai Metropolitan Area (CMA), today comprising the city of Chennai, eight Municipalities, eleven Town Panchayats and 179 Village Panchayats in 10 Panchayat Unions, covering an area of 1189 square kilometers.

7. **The TNSCB and the CMDA have prior experience of implementing World Bank supported projects.** TNSCB was the implementing agency for the World Bank funded Emergency Tsunami Reconstruction Project (ETRP), while CMDA was the implementing agency for one of the components under the World Bank funded Third Tamil Nadu Urban Development Project.

8. **All three implementation agencies will independently procure and supervise project staff, consultancy assignments, and goods agreed with the World Bank under the Procurement Plan, and ensure quality control.** HUDD may set-up independent direct monitoring and reporting mechanisms for specific TA activities, as required.

9. **Financial Management.** The project has financial management arrangements, acceptable to the Bank, to account for and report on project expenditures. For Component 1, which is a financial intermediary (FI) financing, the equity contribution will be made by GoTN through the Tamil Nadu Housing Board (TNHB). All proposed implementation agencies are existing GoTN agencies. TNSCB and CMDA have prior experience of implementing World Bank supported projects. TNIFMC is an asset management company registered about two years ago (with 49% GoTN equity holding) for attracting long term investors for a dedicated AIF, one of which is the proposed TNSF.

10. **Budget and funds flow.** The budget for the project has been included in the GoTN budget for FY 2020-21[38]. Funds for the equity contribution will flow directly from GoTN or through TNHB to the TNSF, while the other three agencies (TNIFMC, TNSCB and CMDA) will draw funds from the budget to their entity bank accounts for project related payments.

11. **Accounting and financial reporting.** Each implementing agency has separate accounting processes and systems. TNIFMC and CMDA have an IT-based accounting system, while TNSCB follows a manual accounting and reporting system. Separate account codes/ledgers will be opened - to account for, and to report on, project specific expenditures. TNSCB will consolidate the quarterly expenditure reports from TNIFMC and CMDA for Component 2, and from TNHB for the equity investment in TNSF, and submit the consolidated IUFR to the Bank.

12. **Internal control and staffing**. Each of the three agencies has adequate internal control procedures for processing payments, with appropriate delegation of administrative and financial powers. Since the number of activities and transactions are limited an internal audit function is not considered necessary. There is adequate staffing in the finance unit at the head offices of the three implementing agencies; however, TNSCB may contract dedicated finance staff to help coordinate and consolidate IUFRs, and to ensure that the audits of the project financial statements are carried out in a timely manner.

13. **External audit.** The three implementing agencies have different auditors consistent with their legal framework. TNIFMC is current in the entity audit report; however, the annual entity audits of TNSCB and CMDA

[38] For FY2020-21, an allocation of approx. US$22 million (INRs.155 crore) has been made to TNSF for component 1. For component 2, allocations of Rs 5 crores (US$0.7 million) for TNSCB, Rs 8 crores (US$1.12 million) for CMDA, and Rs 1 crore (US$0.15 million) for TNIFMC has been made in the FY 2020-21 budget.

have a lag of one to two years. A firm of chartered accountants will be contracted by TNSCB, as per terms of reference acceptable to the Bank, to audit project expenditures incurred by TNSCB and CMDA under Component 2. TNIFMC will have its project expenditures audited by its external auditor and submit the audit report to the GoTN and the Bank. For Component 1, it is proposed that alternative assurance used in lieu of normal project audit, i.e. confirmation of receipt of equity funds by TNSF and issue of unit certificates to TNHB supplemented by the entity audit report of TNSF is considered adequate. Accordingly, the following audit report will be monitored.

Table A1.1: Audit Monitoring

Nature of Audit	Audit By	Due Date
Project financial statements for TNSCB (Component 2)	Firm of Chartered Accountants	Within 9 months of the close of the financial year
Project financial statements for CMDA (Component 2)	Firm of Chartered Accountants	Within 9 months of the close of the financial year
Project financial statements for TNIFMC (Component 2)	External auditors of TNIFMC - Firm of Chartered Accountants	Within 9 months of the close of the financial year
Entity financial statements of TNSF (Component 1)	External auditors of TNSF- Firm of Chartered Accountants	Within 9 months of the close of the financial year

14. **Disbursement arrangements.** The project will disburse on the basis of quarterly consolidated IUFR's to be submitted by TNSCB within 45 days of the end of the quarter through CAAA. Given the small size of the project, no advance is proposed. The equity contribution by GoTN through TNHB (for Component 1), will be treated as eligible expenditure for reimbursement (see Annex 3 for the FI assessment and corporate governance arrangements in TNSF for oversight arrangements, both at the fund level and for investments). Component 2 will include expenditures on studies and training, and a minimal amount of goods, essentially IT equipment. The disbursement categories are shown in Table A1.2 below.

Table A1.2: Disbursement Categories

Category	Amount of Loan Allocated (US$)	Percentage of expenditures to be financed (inclusive of taxes)
(1) Equity contribution in Tamil Nadu Shelter Fund under component 1	35,000,000	62.50%
(2) Goods, consulting services and no-consulting services, training and operating costs under component 2	14,875,000	100%
(3) Front end fee	125,000	As per loan agreement
Total Amount	50,000,000	

15. **Retroactive financing**. The project may seek retroactive financing, not exceeding US$3 million, for eligible expenditures incurred prior to this date but on or after December 1, 2019.

16. **Implementation support.** The initial phases of the project will require close supervision, essentially to focus on effective coordination between the three agencies to ensure timely submission of consolidated IUFR's and the audit reports. The financial management specialist will also provide support in the review of the Corporate Governance arrangements in the TNSF, and in its investee entities, as well as reviewing the investments in projects for consistency with the PPM.

17. **Procurement.** Procurement for the project will be carried out in accordance with the World Bank's

Procurement Regulations for IPF Borrowers for Goods, Works, Non-Consulting and Consulting Services, dated July 1, 2016 (revised in November 2017 and August 2018). Unless otherwise agreed with the World Bank, the World Bank's Standard Procurement Documents, Requests for Proposals, and Forms of Consultant Contract will be used.

18. **Project Procurement Strategy for Development (PPSD).** The TNSCB has prepared a project procurement strategy for development (PPSD). Market analysis has been carried out for the different procurement packages and the findings were the basis to decide on the packages for Goods. Consultancy packages were also finalized based on market research. The Procurement Plan for the first 18 months of project implementation sets out the selection methods for the procurement of goods, and consulting services financed by the World Bank.

19. **Procurement Risk Rating.** The procurement risk for the project is assessed as 'Moderate'. The procurement risk and progress on various mitigation measures will be reassessed during the implementation phase and risk rating will be updated accordingly.

20. **Procurement types.** Table A1.3 presents the procurement types, methods and prior review thresholds for the initial 18-month implementation period. Based on the procurement performance of the project, these thresholds may be subsequently modified.

Table A1.3: Procurement Types, Methods and Prior Review Thresholds

Type of Procurement	Method Threshold (US$, millions)	Prior Review Threshold
Works (including Turnkey, Supply & Installation of Plant and equipment, and PPP)	Open International > 40 Open National < 40 National Request for Quotation < 0.1	All contracts more than US$15 million equivalent
Goods, Information technology and Non-Consulting Services	Open International > 3 Open National < 3 National Request for Quotation < 0.1	All contracts more than US$4 million equivalent
Consulting firms	Selection Based on Consultants' Qualifications < 0.3 Least Cost Selection and Fixed Budget Selection - in justified cases Quality- and Cost-based Selection and Quality-based Selection - in all other packages National market approach (As per paragraph 7.25 of the Procurement Regulations) < 0.8	All contracts more than US$2 million equivalent
Consulting - individuals	No threshold	All contracts more than US$400,000 equivalent
Direct selection	No threshold	With prior agreement based on justification • For goods/works/non-consulting services: As per paragraphs 6.8–6.10 of the Procurement Regulations. • For consultants: As per

Type of Procurement	Method Threshold (US$, millions)	Prior Review Threshold
		paragraphs 7.13–7.15 of the Procurement Regulations.

21. **Procurement Plan.** The project will use the Bank's online procurement planning and tracking tools (viz. STEP) to record all procurement actions under IPF operations, including preparing, updating and obtaining Bank No-objection to the Procurement Plan. Nineteen officials of TNSCB have attended the Workshop on Systematic Tracking of Exchanges in Procurement (STEP) conducted by the World Bank at Chennai. Table A1.4 presents the type of procurements envisaged under each implementing agency of the project.

Table A1.4: Procurement Envisaged under Project by Implementing Agencies

Department	Category[39]	Description
TNSCB	Goods	Vehicles, Computers and accessories, furniture, software, etc.
	Consultancy	Demand assessment, developing IT system for data management, strengthening IT system, development of maintenance models, strengthening and implementation of the sustainability framework, capacity building, knowledge exchange, etc.
TNIFMC	Consultancy	ESG framework, Project Monitoring Consultancy, Market and Feasibility Studies, Detailed Project Report and Transaction Advisory services etc.
CMDA	Goods	Vehicles, Computers and accessories, furniture, software etc.
	Consultancy	Consultancy for sectoral studies and geo-spatial systems set-up for setting up an analytical framework that CMDA can leverage for preparing its Third Master Plan.

22. **E-Procurement.** The Project will use electronic procurement systems (viz. National Informatics Centre (NIC) platform) for: issuing Procurement Documents, and addenda, receiving Applications/quotations/Bids/Proposals, and carrying out other procurement actions. This system has been assessed by the Bank and found to be acceptable. For procurement of consultancy services, the use of e-procurement will be subject to the World Bank's approval based on capacity building on e-procurement.

23. **Complaint handling mechanism:** A complaint handling mechanism will be implemented to address procurement complaints. The project is required to ensure the recording of procurement-related complaints in the STEP system. The project will be responsible for performing the following actions in STEP: (i) promptly record all complaints relating to procurement; (ii) for complaints received on contracts subject to the Bank's prior review, submit the proposed response to each complaint to the Bank before issuing it to the complainant(s); (iii) record the response to the complaint, upon issuance to the complainant(s); and (iv) promptly register requests for

[39] The Project does not involve any construction and/or refurbishment works.

debriefings and update STEP with the record of the debriefings to interested parties.

24. **Oversight and monitoring by the World Bank:** All contracts not covered by Bank prior review will be subject to post review during Implementation Support Missions (ISMs) and/or special post review missions, including missions by consultants hired by the World Bank. The World Bank may conduct, at any time, independent procurement reviews of all contracts financed under the loan.

25. **National Procurement Procedures:** National competition for the procurement of goods, works and non-consulting services according to the established thresholds will be conducted in accordance with paragraphs 5.3 – 5.6 of Section V of the Regulations and the provisions in the Legal Agreement.

ANNEX 2: Additional Details of Project Components

COUNTRY: India
Tamil Nadu Housing and Habitat Development

1. **The proposed Project will support innovations in housing finance and institutional strengthening of housing sector institutions in Tamil Nadu to expand access to affordable housing and improve the sustainability of the housing policy, institutions and programs.** It will support the newly created TNSF[40] - an innovation in housing finance in India - by providing an initial equity contribution[41] towards mobilizing additional external financing. The TNSF is expected to act as a market maker to increase access to affordable housing through the financing of mixed-income and mix-use developments where middle-income units cross-subsidize low-income units, thereby creating a new asset class that does not yet exist as a market in Tamil Nadu. The proposed Project will also support key housing institutions to build their capacities, including TNSCB, the state's main provider of affordable housing; TNIFMC, the asset management company of TNSF; and CMDA, the land use planning authority for CMA[42]. This support will aim to diversify housing solutions from the current one-size-fits-all approach, strengthening transparency and accountability in the housing sector and introducing and implementing critical sustainability measures encompassing fiscal, environmental, climate resilience, social, citizen engagement and gender aspects. The proposed project will comprise two components.

Component 1: Enabling private sector participation in affordable urban housing provision (Total cost: US$57 million of which IBRD financing: US$35 million)

2. **This component aims to leverage private financial resources into the affordable housing segment in Tamil Nadu.** The component will finance an equity contribution (Class B shares to the TNSF) towards addressing a market gap in the housing finance sector by structuring and co-financing eligible private or public-private projects for EWS, LIG and MIG that are commercially viable through cross-subsidization, but not sufficiently attractive to the current housing developers. TNSF can only invest in commercially viable projects: the expected return may be lower due to the inclusion of affordable housing compared to projects focusing exclusively on high- and middle-income housing. Each project will be evaluated and approved individually under a process described and adopted in the Fund's investment Manual (IM), to be reviewed and approved by the Bank. There are currently two projects in the pipeline: a women's hostel with a project cost of US$8.5 million and a rental project for industrial workers with a cost of US$50 million. TNSF's investment in these projects would be approximately US$2.8 million and US$31 million, respectively.

3. **The equity contribution is expected to support demonstrative housing projects with a mix of affordable housing units both for ownership and rental units.** It is also expected to reduce the perceived risk and to ultimately contribute to a robust supply of affordable housing which can substitute highly-subsidized publicly provided units in the long run. The TNSF will establish an adequate governance framework and eligibility criteria to standardize, pilot and demonstrate affordable housing projects that are commercially viable, and thus attractive to private investors encouraging them to enter into this segment.

4. **TNSF's main objective is to support public-private projects for the development of affordable housing**

[40] The Shelter Fund is an Alternative Investment Fund recently established by the Securities and Exchange Board in India with the main objective of supporting (through equity contributions) public-private projects for the provision of affordable housing to MIG, LIG and EWS segments.
[41] These will be contributions to the TNSF - a housing investment fund.
[42] The Chennai Metropolitan Area (CMA) is the fourth-most populous metropolitan area in India spread over 1189 square kilometers and a population of 8.6 million as per the 2011 Census.

in Tamil Nadu. The TNSF is a new AIF regulated by SEBI [43] that offers investors the possibility to invest in affordable housing projects that meet certain standards (eligibility criteria). No resources can be received by TNSF until a private placement memorandum (PPM)[44] is approved by SEBI; the revised TNSF PPM received SEBI approval in late-2019[45]. TNIFMC is the entity responsible for management of TNSF. As the asset management company of TNSF, TNIFMC is responsible for taking investment decisions, oversight over performance of investments, compliance with SEBI, investor relations and other corporate reporting obligations of the TNSF.

5. **TNIFMC has developed an investment management process to be captured in an Investment Manual (IM) applicable for all investments funded by the Shelter Fund.** The IM describes the eligibility criteria, methodology for screening and process for pre-selection of projects. TNIFMC has developed a financial model to assess project's financial viability and ensure that projects meet the criteria and principles established in the PPM. TNIFMC has the in-house capacity to develop and use financial models for project finance investments. To date, the TNSF has received a commitment of almost US$ 21 million from the Government of Tamil Nadu) and other investors have also shown interest.[46] The target fund size is around US$ 418 million - and is extendable to around US$487 million. The process described in the IM will ensure that once the due-diligence has been completed and compliance with the eligibility criteria met, proposals are to be presented to the Investment Committee (IC)[47] for approval and funding.

6. **The equity contribution under this component will aim to leverage private sector finance for an asset class of mixed-income and mixed-use projects**. It is expected that this approach will gradually become standardized in the affordable housing market in Tamil Nadu. Once funds are received, TNSF may invest equity in projects where the expected return may be lower than the target return[48] in view of larger social outcomes which the project may achieve. At the same time, the Fund may aim for higher/commercial returns in case of private sector projects, where social outcomes may be less. However, at the portfolio level, the fund will endeavor to achieve the return higher than the target return, thereby allowing for a cross-subsidization where higher returns from high-income developments compensate for lower returns in the affordable segment.

7. **The TNIFMC is adopting an ESMS framework to ensure that the investments under TNSF comply with national laws on environment, social and governance aspects, as well as international standards.** TNIFMC wants to attract investors interested in sustainability targets, that will give additional value to the equity contribution. For this reason, the projects implemented under TNSF will use methodologies to assess social, environmental, and governance aspects. In this regard, the TNIFMC will adopt a robust ESMS framework that meets the requirements of potential investors, and that will dictate the procedures applicable to all subprojects, regardless of the source of funding. The ESMS framework will provide policies, procedures, tools, monitoring, reporting arrangements, and grievance mechanisms that will govern project selection, approval and implementation from the environmental, social and governance perspectives, to comply with national laws and regulations on environment[49], social[50] and

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[43] Regulation 2(1) (b) of Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012.

[44] The PPM includes critical aspects of the interest of investors, such as (i) policies and regulatory framework applicable to the fund and the projects to be financed, (ii) eligibility and prioritization criteria for selection of projects, including expected returns on investments, (iii) standards, responsibilities and minimum qualifications of the fund manager, (vi) risk mitigation measures, and (iii) governance and transparency responsibilities.

[45] The original TNSF PPM was approved by SEBI in July 2018.

[46] This figure of INR 1,500,000,000 (Rupees one point five billion or Rupees one hundred and fifty crores) is documented in Government Order (MS) No. 135 dated 21 July 2017 as catalytic first loss capital (Class B Units).

[47] The IC has no representation from the shareholders and consists of professionals from donor agencies and reputed private sector companies. The IC is completely independent and has no role in deal origination, appraisal or the day to day operations of the fund.

[48] The Fund will target a CAGR of 6% (six per cent) over Hurdle Rate, at the time of redemption, including coupons, cash-flows and long-term capital appreciation and net of any losses or unrealized gains/ coupons, before taxation and management charges.

[49] On environment, laws and regulations including, but not limited to: air, water, noise, forests and natural resources, greenhouse gas emissions, energy, solid waste management, hazardous waste management, green building codes, etc.

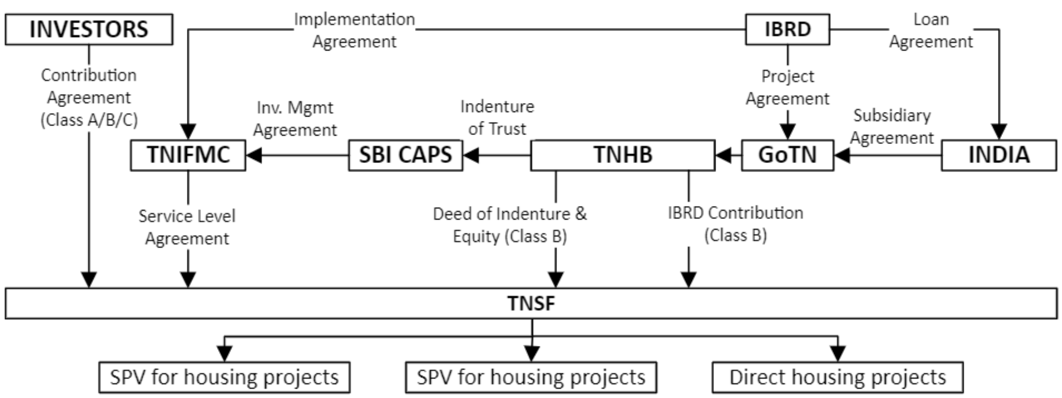
[50] On social, laws and regulations including, but not limited to: labour and child labour, occupational health and safety, fair wages and compensation, land

governance[51] aspects, and to meet international standards[52].

8. **The ESMS framework is expected to ensure homogenous sustainable standards across affordable housing projects**, minimizing environmental degradation and social exclusion, integrating environmental and social considerations in decision-making processes, and enhancing positive environmental and social aspects.

9. **The introduction of the IBRD contribution to the existing legal structure of TNSF will require two additional IBRD legal agreements with the investment manager and the sponsor.** As with any financial vehicle there are specific local legal registration requirements and contracts. These registrations have been completed with the domestic trust and fund legislation. Service level agreements with the investment manager have also been completed by the trustee. For the IBRD contribution to be directed to TNSF, a legal agreement (Implementation Agreement) between IBRD and TNIFMC and another legal agreement (Project Agreement) between IBRD and TN will be necessary, in addition to the standard loan agreement with India. These are termed Project Agreements, and will cross reference the safeguards and anticorruption language from the General Conditions. These agreements will ensure that IBRD proceeds ensue to the intended TNSF account within guidelines from the design of this Project. Figure 1 the shows the proposed legal structuring. Further, there will also need to be a subsidiary agreement between India and the GoTN so that the IBRD loan funds can flow to GoTN.

Figure 1: Legal Structure of the Project



Component 2: Strengthening of Tamil Nadu's urban housing institutions for enhanced sustainability (Total cost: US$14.875 million IBRD)

10. **This component will finance technical assistance and capacity building support to state-level institutions and their programs.** Under this component, support will be extended to TNSCB, CMDA, and TNIFMC to improve their institutional performance and capacity, and to enhance the effectiveness of their programs and sustainability. This component will also support a program of knowledge exchange on development experience among India's states and between India and other developing countries on strengthening the housing sector by linking it to the ongoing Lighthouse India program.

Sub-component 2.1: technical assistance support for diversifying public sector housing and planning solutions

11. **Technical assistance support to TNSCB will focus on transforming the institution's role to respond to the TNHHP**. The support to TNSCB will aim to, inter-alia: (i) review and update the regulatory framework guiding

acquisition, resettlement & rehabilitation, community health and safety, cultural heritage, etc.

[51] On governance, laws and regulations including Companies' Act 2013, SEBI & RBI guidelines on corporate governance, prevention of corruption, etc.

[52] The World Bank Group's Environmental and Social Standards (2018), in particular ESS 9 on Financial Intermediaries; Equator Principles, 2013; UN Global Compact; G4 Sector Disclosure for Financial Services; and IFC's Corporate Governance (CG) Development Framework.

the function of the institution, and (ii) modernize its business processes and institutional architecture to help TNSCB respond more effectively consistent with the new Tamil Nadu Affordable Urban Housing and Habitat Policy; (iii) provide capacity building for enhanced environmental management, disaster risk and climate resilience consideration in the existing housing programs; iv) enhance technical capacity of social management, citizen engagement, grievance redress mechanism, and gender in the existing housing program; v) support methodology and guidelines for enhanced targeting and eligibility criteria based on household affordability; and vi) piloting new models and mechanisms for operations and maintenance.

12. Support to TNSCB for the execution of the newly adopted sustainability framework[53] will focus on establishing ways of doing business, pilot execution of the framework, and capacity building and training. From perspective of social sustainability, support may include inter-alia, (i) defining a demand assessment methodology, including the design of surveying tools, questionnaires and information technology systems for data management and reporting; (ii) definition of targeting systems based on demand segmentation, affordability assessments and other analytical tools; (iii) capacity building on structuring and implementing livelihoods enhancement programs; (iv) definition and implementation of a new social engagement model to be adopted by TNSCB and of mandatory applications for all TNSCB-supported projects, including a systematic method to engage with beneficiaries and communities with clear tools (including engagement using interactive tools and social media), documentation mechanisms, training of staff, and transparency and accountability; (v) development of an integrated grievance management system; (vi) development of social sustainability guidelines aimed at inclusion, gender, achieving social cohesion through TNSCB projects, operation and maintenance, and livelihoods; (vii) support for developing comprehensive programs to support economic livelihood, especially targeting women (i.e. skill training for employment opportunities), social cohesion and integration; (viii) development of social programs for crime and violence mitigation including gender-based violence and youth engagement; (ix) assessment of alternative maintenance and operation models for the housing programs, and piloting of the new models; and (x) support the operationalization of TNSCB's Stakeholder Consultation Platform.

13. From perspective of implementation of the environmental framework, support may include, inter-alia, (i) development of environment guidelines for all TNSCB projects including definition and implementation of environmental criteria to be adopted; (ii) capacity building and training of TNSCB's Environmental Team and relevant TNSCB Engineers to administer the environment guidelines, for all affordable housing projects under its purview; (iii) setting up a training cycle – including training needs assessment, structuring and implementing of training programs, and structuring and implementing other capacity building programs including certificate courses – on improved environmental management; and (iv) extending the prevailing TNPCB's Green Award for Residential Associations to affordable housing projects, promoting the scheme and encouraging participation.

14. From the perspective of implementation of the resilient urban design framework, support may include, inter-alia, (i) preparation of resilient urban design guidelines focusing on site suitability, built form, open space management, unit size design, treatment of green and blue spaces, mobility options, and pilot execution; (ii) capacity building on environmental urban design, place-making techniques and sustainable urban development; (iii) capacity building on construction project management and supervision; (iv) establishment of processes for undertaking climate and disaster screening for site selection, use of energy efficient products, implementation of Energy Conservation Building Code (ECBC) norms, use of resilient construction material including manufactured-sand and fly ash, plantation of trees to reduce heat island effect, rainwater harvesting, and green certification of

[53] As a prior action for the proposed DPF operation, TNSCB is adopting an environmental, social, and sustainability framework, applicable to all its programs irrespective of sources of financing. The framework will include three sub-frameworks: (i) an environmental management framework; (ii) a social sustainability and grievance redressal framework; and (iii) a resilient urban design framework. The environmental framework is expected to lead to effective project development and implementation, including upfront climate resilience and disaster risk considerations in design and siting that also address construction-related environmental impacts and ensures proper O&M.

housing units, ensuring strengthened resilience of affordable housing provided by the public sector.

15. Support for process re-engineering may include, inter alia, (i) reengineering of processes and institutional set-up including redefining roles and responsibilities to optimize project management and sustainability focusing on areas such as planning, budgeting, social engagement, monitoring, grievance management, human resource, and information technology; (ii) strengthening of information technology systems for contract management as well as beneficiary mapping, targeting and monitoring; (iii) development and implementation of an enterprise resource planning system integrating front and back end functions; and (iv) promote housing finance for EWS households from affordable housing finance companies, small finance banks, and non-banking financial companies/microfinance institutions.

16. **Technical assistance support to CMDA will focus on strengthening its analytical and coordination capacities for the preparation of the new Chennai Master Plan.** The support to CMDA will aim to (i) develop a metropolitan growth vision for CMA; (ii) develop a multi-sectoral analytical underpinning by establishing a geo-spatial platform towards the preparation of land use planning approaches that increase the affordability of housing; and (iii) build the capacity of the institution to coordinate and aggregate multi-sector spatial information towards the preparation of the next Master Plan. This would include support to: the development of a comprehensive vision for the future urbanization of Chennai plugging into and supporting the proposed Chennai City Partnership program; strengthening urban planning systems including setting-up a multi-sectoral geo-spatial data system; supporting the preparation of guidelines that support the Master Plan process; capacity building for establishing modern and inclusive land use planning systems; and twinning with an international city on metropolitan planning functions.

17. The support to CMDA under this component is expected to contribute to enhancing the institutional and analytical capacities of CMDA ahead of the preparation of the next Master Plan exercise for CMA for vision period of 2026-2046.[54] Support to CMDA on updating its land use base map to interface with multiple formats simultaneously may include (i) updating the CMA base map by joining the maps of various spatial units (wards, villages, etc.) on geo referenced satellite images; (ii) assessing gaps in geo-spatial information; (iii) preparation of a geo-spatial inventory of public lands held by central, state and local authority in CMA listing the types of ownership and current use; and (iv) updating of CMDA’s existing digital platform to integrate plans across all government agencies and optimize integrated infrastructure development plans, land use plans, and service delivery. A set of Master Plan guidelines will be prepared that will look at defining data inputs, the master planning process and steps, master planning principles in an integrated planning system, detailed integration across sectors, effective community engagement approach, and environmental guidelines for EWS/LIG housing. The multi-sector approach to land use planning will include looking at sectoral analytics on housing[55], water resource

[54] Thus far, CMDA has prepared two Master Plans for vision period 1975-1995 and 2006-2026. The 10-year gap between the first two master plans were on account of stay order issued by the High Court on litigations filed by stakeholders on the second master plan. CMDA has four major units involved in planning and regulation including the Master Plan, Regularization, Area Plan, and Area Development units in addition to administrative, financial, and legal units, and an Enforcement Cell. The Area Plan unit deals with providing planning permissions, while the Regularization Unit deals with cases linked to two regularization schemes of 1999 and 2019. The Area Development Unit looks into implementation of projects from the Master Plan and other projects approved by GoTN such as decentralization of Chennai central business district, including shifting of bus terminus, wholesale markets, steel market, truck terminals, and preparation of satellite township schemes. The Area Development Unit was also involved in preparation of a New Town Plan for the Maraimalai Nagar township envisaged as part of the first Master Plan (1975-1995). The Master Plan Unit is involved in preparation of the Master Plan and detailed development plans, the latter prepared as part of the first Master Plan implementation in which 67 zones were identified. The Chennai Master Plan is prepared at a 1:5000 scale as are the detailed development plans. Two addition zones have been identified as part of the Second Master Plan implementation, and their detailed development plans are under preparation delayed primarily on account of lack of sufficient skilled staff. At present, the Master Plan unit has around 25 positions of which 22 positions are on lease to different CMDA departments causing serious capacity constraints within the Master Plan unit. Currently, the Master Plan unit is led by a Chief Town Planner supported by one Senior Town Planner (with additional charge) and four Planning Assistants. The Master Plan unit also houses the GIS Unit of the CMDA which is adequately staffed and charged with updating the GIS map of the second Master Plan after change in land use and planning approvals are given, thus ensuring an updated, although basic, GIS map is available.

[55] From perspective of housing, sector assessments will be undertaken including inter-alia (i) impacts of densification, (ii) linkages between affordability and access to public transport vis-à-vis location of housing, (iii) structuring and undertaking evaluation studies of environmental performance of affordable housing projects (>20,000 sq.m. and <20,000 floor area) to determine gaps in implementation, and develop recommendations on how these gaps are to be addressed outside the purview of GoTN’s environment impact assessment regulations; (iv) analytical studies to explore the inclusion of the adequacy; (v)

and wastewater management, flooding and drainage, resilience, open space, and urban mobility[56].

18. Support for strengthening urban planning systems and institutional framework may include, inter alia, (i) review of roles and responsibilities of the various stakeholders to be involved in the preparation of Master Plans; (ii) review of the legal and regulatory framework that governs the master planning processes; (iii) review of the approval processes, and the linkages between the various levels of planning (national, state and metro levels); (iv) developing recommendations to streamline the planning and approval processes and clarify the roles and responsibilities of key institutions and stakeholders; and (v) assess human resource needs and make recommendations for improvement, including the identification of key roles and their job descriptions, and support for the recruitment of the needed planners, urban designers, and engineers.

19. **Technical assistance to TNIFMC will aim to (i) develop tools and innovations to leverage external capital in affordable housing, and (ii) extend capacity building support to pilot implementation of these tools.** This may include, inter-alia, development of tools and innovations for leveraging external capital in affordable housing; undertaking social impact and market assessments; building in-house technical capacity for identifying and structuring potential pipeline projects; supporting green certified housing development; undertaking outreach activities to the market and other states; building capacities for effective implementation of the ESMS; and extending capacity building support for development and pilot implementation support.

20. **Lighthouse effect.** The project will seek to showcase the institutional transformation of TNSCB, TNIFMC and CMDA for cross-learning among Indian states as well as for other countries as part of the Lighthouse India Initiative. Lighthouse India includes amplifying the country's role as a leader on key global development issues and leveraging its experience to provide for two-way learning between different states, as well as initiating and sustaining a dialogue among policy influencers and the private sector in the South Asia region to sharpen awareness and strengthen coalitions for action on common development challenges within and across states/countries.

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strategic environmental assessment of the Tamil Nadu Combined Development and Building Rules (TNCDBR) 2019 in context of the affordable housing; and (vi) analytical studies to establish a mechanism to check the adequacy and performance of environmental assets (sewage treatment plant) prior to CMDA's issuance of the completion certificate for affordable housing projects in consultation with the Tamil Nadu Pollution Control Board.

[56] Including development of transit-oriented development vision and institutional mechanisms fostering affordable housing and transport by leveraging on development along upcoming metro lines, and development of agent-based transport model allowing for testing mobility policies and their impact and of a traffic management center covering all transport modes.

ANNEX 3: Financial Intermediary Financing Due Diligence for TNSF[57]

COUNTRY: India
Tamil Nadu Housing and Habitat Development

Introduction and Ownership

1. **The TNSF is a regulated investment trust established to finance affordable housing projects for increasing the supply of housing for the population that is currently underserved by the housing market.** This objective of the fund was blueprinted in a Tamil Nadu Government Order dated July 21, 2017.[58] As a consequence, TNSF was established as an irrevocable and determinate investment trust in accordance with the provisions of the Indian Trusts Act of 1882 under a deed of indenture dated February 2, 2018. TNHB is TNSF's settlor, and TNHB has appointed SBICAP Trustee Company Limited to act as the trustee to TNSF. TNSF was registered on July 23, 2018 with SEBI as a Category I Alternative Investment Fund - Social Venture Fund under the SEBI's Alternative Investment Fund Regulations of 2012 (amended on May 10, 2019).[59] A PPM for TNSF filed with SEBI in December 2019 outlines the structure and functions of TNSF.

2. **TNSF's hurdle rate is 6 percent and GoTN through TNHB has committed 5 percent of TNSF's target fund size.** The hurdle rate will be calculated as an internal rate of return and the target rate is 12 percent. TNSF is currently raising capital which has a target fund size of INR 30 billion (US$420 million). As per SEBI's regulations, the sponsor of a regulated AIF must continually commit to 2.5 percent of the fund size or INR 50 million, whichever is lower. TNHB (TNSF's sponsor) has committed to fund INR 1.5 billion (US$21 million) as Class B catalytic first loss shares, which is 5 percent of the target fund size. The initial fund closing threshold has been established at INR 1.5 billion (US$21 million). The World Bank is contemplating to lend US$35 million (INR 2.5 billion) to Tamil Nadu to be additionally invested in TNSF as Class B catalytic first loss shares, which together with TNHB's INR 1.5 billion (US$21 million) will amount to a total investment of US$57 million from GoTN in TNSF.

3. **TNSF has four share classes, drawdowns are proportional to investments after an initial deposit and the fund's term is ten years.** Class A Units are for qualified investors, either domestic or foreign. Class B Units ("catalytic first loss capital class") shall be issued to the sponsor or other investors who opt for this class of units, with a subordinate refund of capital to Class A. Class C Units ("grantors' class") shall be issued to such corporate social responsibility and other grantors and donors, who are willing to provide irrevocable grant funds, without expectation of any returns. Class D Units ("carry class") shall be issued to the investment manager, employees or directors of the investment manager and are subordinate to Class A and B units. The initial drawdown is 10 percent of commitments followed by a schedule determined by investment opportunities. TNSF's term is 10 years, and is extendable by two years.

Management and Governance

4. **TNSF's trustee has appointed TNIFMC as the investment manager.** TNIFMC was registered as an asset management company by the Tamil Nadu Infrastructure Development Board (TNIDB) on July 15, 2015 under the Companies Act (2013). SBICAP Trustee appointed TNIFMC as the investment manager for TNSF on February 2, 2018. TNIFMC is minority Tamil Nadu government owned (49.5 percent) through TNIDB, while the remaining

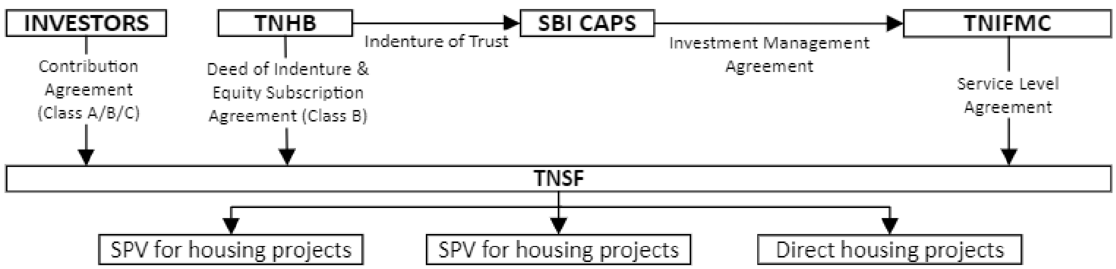
[57] This annex follows the guidance from the World Bank's OP 10-Finanical Intermediary Financing Guidance Note. An exchange rate of USD:INR of 71.3 has been used to covert INR to USD.

[58] See *http://www.tnscb.org/wp-content/uploads/2019/04/11.-Constitution-of-Shelter-Fund.pdf*

[59] See *https://www.sebi.gov.in/legal/regulations/jun-2018/sebi-alternative-investment-funds-regulations-2012-last-amended-on-may-10-2019-_34621.html*. Category I are funds with strategies in sectors which the government considers socially or economically desirable. These include venture capital funds, small and medium sized enterprise (SME) funds, infrastructure funds and social venture funds.

shareholders are other banks including the National Housing Bank. TNIFMC is responsible for investment identification, evaluation, drawdowns, execution, monitoring and divestiture. TNIFMC's setup fee is 1 percent and its ongoing management and operating fee is 1.5 percent. It is also entitled to the carried interest above the hurdle rate and up to 10 percent. TNIFMC is also the investment manager for the TNIF.

Figure 1. Corporate Governance Structure of TNSF



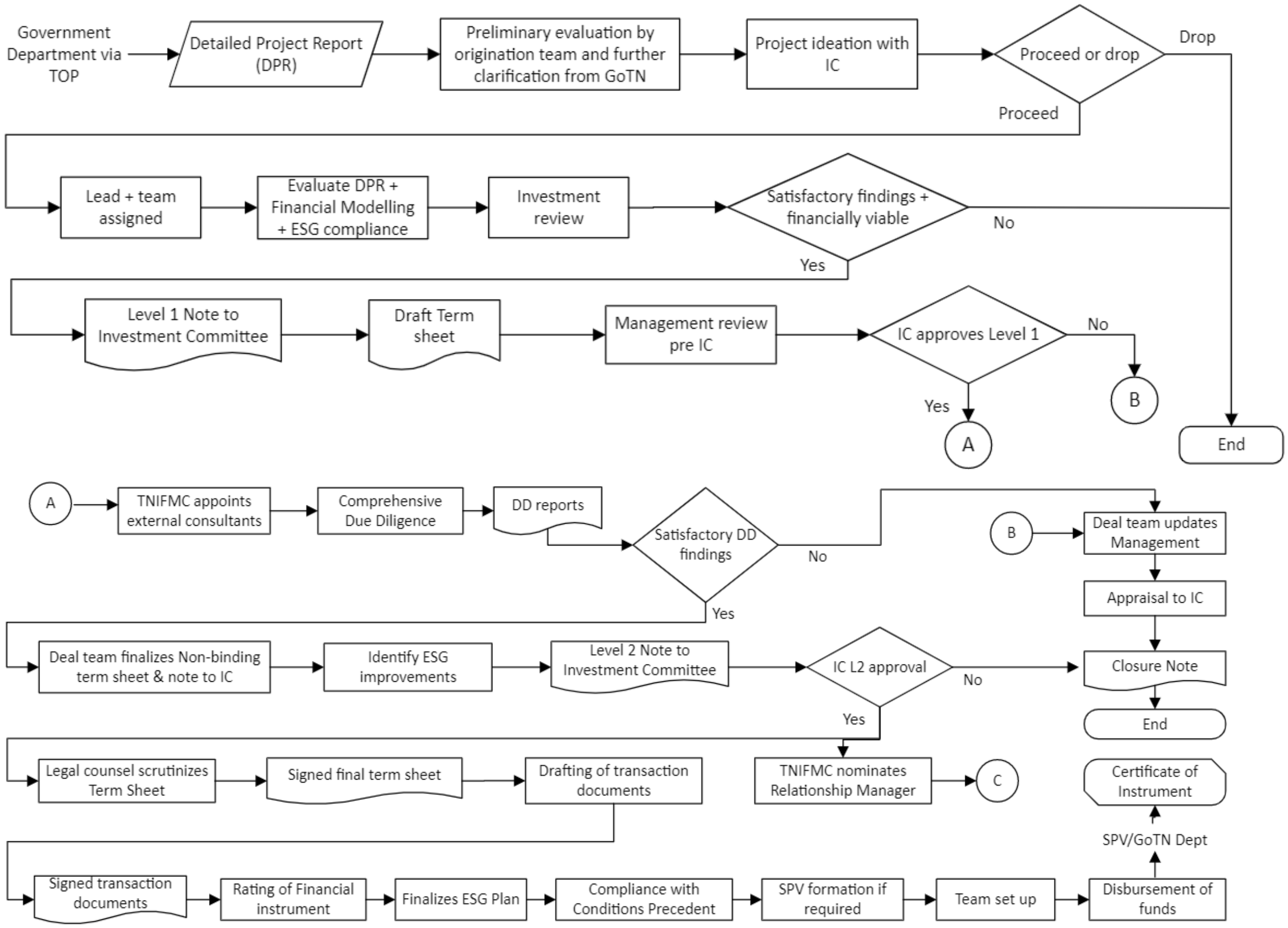
Investment Process and Risk Management

5. **TNIFMC is staffed by qualified investment professionals and has a board as well as an investment committee as part of its corporate governance structure.** TNIFMC's investment team is led by a chief executive officer, whose function is fund management. This role is supported by a chief project officer from the public sector, whose function it is to be a bridge between the private and public sectors. The TNIFMC investment team is comprised of seasoned investment professionals with project finance skills, lawyers, monitoring and evaluation and some safeguards experience. TNIFMC is currently seeking to strengthen its in-house safeguards expertise. TNIFMC has an investment committee, independent from investors, comprising three private sector investment professionals with relevant domain expertise that will make all decisions on investments (on a two-thirds basis) after referral from the TNIFMC investment manager. TNIFMC also has a six-person Board, which oversees TNIFMC. Figure 1 shows the corporate governance structure of TNSF.

6. **TNIFMC has a well-structured investment process and uses deal management software to administer the workflow.** Figure 2 shows TNIFMC's investment selection, due diligence and approval phases. There are a number of steps and the investment committee (IC) is involved throughout the process, and not simply at the end. There is also an initial 'ideation' stage with the IC. Safeguards considerations are mainstreamed throughout the entire workflow as is comprehensive due diligence, which is undertaken with the help of external consultants. Each invested project is associated with a special purpose vehicle (SPV) which is standard in project finance for legal and ring-fencing characteristics.[60] These SPV are separate legal entities and will be co-owned by TNSF, developers and sometimes the government depending on the equity structure.[61] These phases are well integrated into the deal management software at TNIFMC so that each project can be tracked through the workflow efficiently and to help facilitate future reporting.

[60] The investment instruments that the TNSF could use for investment in individual transactions are debt, convertible debt and/or equity.
[61] As per the PPM, TNSF would ordinarily not invest into more than 49 percent of the equity or paid up capital of the project SPV in case of private sector projects, ordinarily the equity stake of the fund shall not be more than the promoter's stake. AIF regulations in India required that : (i) At least seventy five percent of the corpus shall be invested in unlisted securities or units or partnership interest of venture capital undertaking or investee companies or special purpose vehicles, which are engaged in or formed for the purpose of operating, developing or holding infrastructure projects; and (ii) such funds may also invest in listed securitized debt instruments or listed debt securities of investee companies or special purpose vehicles, which are engaged in or formed for the purpose of operating, developing or holding infrastructure projects.

Figure 2: TNIFMC Investment Selection, Due Diligence & Approval Phases

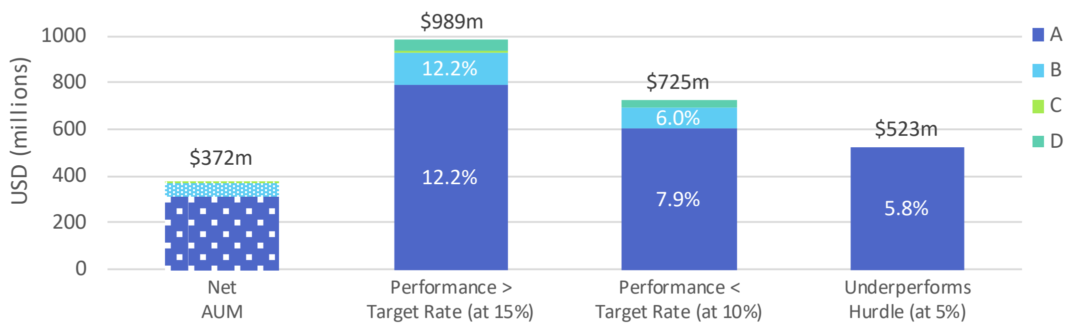


7. **TNIFMC uses Indian Generally Accepted Accounting Principles (GAAP) and thus far revenues have been from the management fees for TNIF.** Two years of audited financial statements were reviewed as part of this due diligence process: March 2018 and March 2019. Initial management fees for TNIF have provided some income to TNIFMC. However, TNIF has not had its initial closing and therefore revenues remain modest. TNIF has reviewed a number of potential transactions in power generation (hydroelectric), power transmission and toll roads. However, an investment has not yet been made. No direct costs or revenue for TNSF have been recognized. The TNHB equity has been transferred and the upfront 10 percent transfer has been received. The TNHB/GoTN's investment in TNSF will be considered an expenditure eligible for reimbursement by the Bank.

8. **TNSF has hired a range of fund service providers which will facilitate its regulatory reporting requirements.** TNSF has hired: a fund accountant and transfer agent, a securities custodian, a scheme banker, and an auditor to comply with the AIF regulations. Under the AIF regulations, Category I, Alternative Investment Funds need to undertake valuation of their investments, at least once in every six months, by an independent valuer appointed by the fund. TNSF has documented its intention in the PPM to ensure that all reporting is done in a manner that ensures transparency and good governance practices. TNSF has noted that is will appoint a reputable independent valuer to undertake the valuation of its assets annually, and that TNSF's accounts will be audited annually by a qualified external auditor.

9. **The simulated distribution waterfall across the target and the hurdle rate show the range of return options across the class shares.** As part of the establishment and capital raising exercise for TNSF, a simulated distribution waterfall was run at the target fund size of Rs. 30 billion (US$420 million). This is shown in Figure 3. Total commitments are US$420 million, of which 84 percent are Class A and 15 percent at Class B. Class C (grantor class) is just less than 1 percent and Class D (management carry class) is US$40,000. The fee structure of 1 percent setup fee and 1.5 percent management and operating fee, yields a net assets under management (AUM) of US$372 million. TNSF has a hurdle rate of 6 percent and a target rate of 12 percent. Three scenarios in terms of total returns across a seven year life are considered: (i) 15 percent – performance above the target rate; (ii) 10 percent – performance below target; and (iii) 5 percent – underperforms hurdle. Total returns in excess of 14.74 percent will ensure that Classes A and B receive a 12 percent return, while total returns in excess of 8.21 percent will ensure that Classes A and B received a 6 percent return.

Figure 2. Simulated Distribution Waterfall for TNSF at Target Fund Size



Notes: Hurdle is 6% & Target is 12%. Committments are $420m and fees are $49.3m. Net IRR shown in bar for class. Total dollar retun above bar.

10. **Overall, TNSF has a sound structure and is managed by a well staffed TNIFMC; however the lack of transactions to date at TNIF and the introduction of a new housing fund need attention.** TNSF has sound legal, fiduciary, financial, operational and information technology foundations. A significant amount of work has been devoted to the design of TNSF. In terms of the financial intermediary financing guidance in OP 10.0, TNSF meets the criteria. However, TNIFMC has yet to secure its first transaction for TNIF. This suggests that TNSF may also take time to navigate the public-private investment landscape in housing. Further, TNSF is a new housing fund and is a new vehicle to deliver financing to an important social sector. As with any new fund, careful attention and support will be required in the initial phases for TNSF to be successful. Although TNIFMC, its team, board and investment committees are qualified the lack of a robust investment pipeline at TNIF suggests that careful support should be provided to ensure that TNSF is able to deploy capital efficiently.

ANNEX 4: Housing Finance, Affordability and Mixed Income Housing Examples

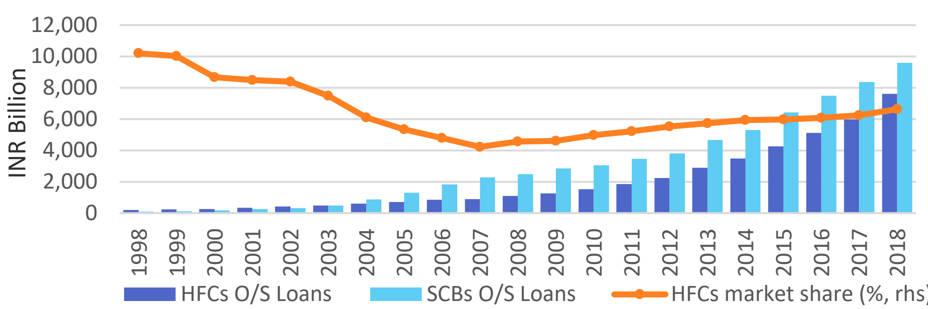
COUNTRY: India
Tamil Nadu Housing and Habitat Development

Housing Finance

1. **Housing finance companies (HFCs) and scheduled commercial banks (SCBs) are the two main providers of housing finance in India.** Other providers include cooperative banks, cooperative housing financial societies and more recently affordable housing finance companies (AHFC). As of January 2020, there were 101 HFCs with a total of 5,100 branches across India, of which 18 have permission to accept deposits from the public.[62] As of August 2019, HFCs are regulated by the Reserve Bank of India (RBI).[63] The HFC sector is highly concentrated with the top-two HFCs accounting for 58.5 percent of the total HFC loan portfolio, and the top-five HFCs representing over 82 percent.[64] Nationwide, as of March 2019, there are 89 SCBs: 20 public sector banks (PSBs) with a total of 87,860 branches; 22 private sector banks (PVBs) with 32,375 branches; and 45 foreign bank (FBs) with 300 branches. SCBs are regulated and supervised by the RBI. Housing loans are an important part of SCB lending and are categorized as personal loans. As of March 2018, housing loans represented 12.7 percent of outstanding loans and 22.6 percent of loans to households.

2. **Housing finance has grown rapidly in the past decade with both SCBs and HFCs playing leading roles in different time periods.** The participation of SCBs in the housing market increased in the early 1990s, as the RBI directed SCBs to allocate a minimum of 3 percent of their incremental deposits for housing finance. From 2007 onwards, HFCs disbursement growth has been higher than that of SCBs, leading to redistribution in the market share between SCBs and HFCs (Figure 1). Recent annual nominal growth rates in outstanding SCB and HFC housing loans between 2006 and 2018 are 18.9 percent for HFCs and 13.5 percent for SCBs. The outstanding housing loans of SCBs and HFCs have grown from less than Rs. 300 billion in 1997-98 to more than Rs. 17,000 billion in 2017-18 (10.3 percent of GDP). This growth is higher than the total growth of SCB credit to the private sector, which increased by 19.7 percent: from Rs. 3,290 billion in 1997-98 to Rs. 83,992 billion in 2017-18.

Figure 3. Outstanding Housing Loans of Banks and HFCs



Source: RBI and NHB. O/S is outstanding.

3. **The average housing loan size varies widely across HFCs and SCBs, and the current average interest rates range between 8.5 percent and 10.5 percent.** The average housing loan size has increased steadily across the market and is heterogeneous across housing finance providers, with the average loan size for the top-five HFCs ranging from Rs. 1.5 million to Rs. 3 million. Interest rates on home loans have followed a downward trend, with lower cost of funding and narrower interest rate spreads as a result of increased competition. Interest rates

[62] Out of the 18 HFCs with permission to accept deposits from the public, 6 are required to obtain prior written permission from the NHB before doing so.
[63] Before August 2019, HFCs were regulated by the National Housing Bank (NHB) The rationale for the change in regulator is based on a widening of the mandate of the NHB as it has assumed the role of refinancer and lender to the housing finance sector, and this has created a conflict of interest.
[64] ICRA Indian Mortgage Finance Market Update for June 2019

offered by SCBs are typically slightly lower than those of HFCs (due to their different funding models), but credit score requirements are typically higher. Loan-to-value (LTV) at origination can be as high as 90 percent and loan tenor up to 30 years. Reports from several housing providers suggest average LTV to be around 70 percent, and average loan tenure between 10 and 14 years (see Table 2).

4. **Housing finance loans provided by HFCs are highly concentrated in urban areas and are dominated in six states in India; SCB is likely show a similar trend, though no data are available.** According to NHB disbursements data for fiscal year 2017-18 , urban housing represents 79 percent of all financing provided by HFCs to individuals, while 21 percent is to rural housing. State-wise, the top-six states (out of the 29 states and 7 union territories) amount to 69.9 percent, with the state of Maharashtra standing out at 27 percent of the total. The other states that complete the top-six are: Karnataka (10.0 percent), Gujarat (9.2 percent), Tamil Nadu (9.1 percent), Uttar Pradesh (8.0 percent) and Telangana (6.5 percent).

5. **HFCs fund themselves primarily through the capital market and are therefore more succeptible to changes in interest rates.** HFC funding sources include loans, bonds and debentures (unsecured bonds) from banks and financial institutions. This is partly because only 18 of 101 HFCs are allowed to accept deposits and HFC branches are only 4.2 percent of the total number of bank branches. Other sources of funding include borrowing through inter-corporate deposits (ICDs), commercial paper, mutual funds and subordinated debt. Housing loans are secured products and their values tend to increase over time, increasing the security cover for the housing loan. In 2017-2018, 43.1 percent of HFC borrowing was debentures, followed by 30.1 percent from bank loans followed by 17.5 percent from ‘subscribed’ by others. In terms of leverage the capital adequacy ratio of the HFC sector is decreasing while for SCB it is increasing. For SCBs it was 15.1 percent in September 2019, up from 13.3 percent in September 2016, following government recapitalization of PSBs. While for non banks (which HFCs are part of), the September 2019 capital adequacy was 19.5 percent down from 26.2 percent in March 2015. Capital adequacy for the HFC sector from March 2018 (the latest data) is 18.7 (the corresponding non bank capital adequacy in March 2018 was 22.1).

6. **There is currently one regulated real estate asset class in India – Real Estate Investment Trust (REITs) – that has taken a significant amount of time to develop.** Since 2008, SEBI has been exploring the introduction of REIT regulations. These only came into force in 2014, and through 2019 a number of amendments have already been made to the legal framework. There is only one listed REIT in India which launched in March 2019. There is a second offering scheduled for the 2020Q2. Foreign investor restrictions and double taxation have affected the growth of this asset class. The absence of a rental policy has also inhibited growth and the new RERA act will help strengthen this. TNSF could help further develop this asset class and bring mixed income development experience as well as more rentals. The growth of REITs in Mexico since 2011 has been high, with total net asset value above US$15 billion as of 2019. However, Mexico benefited from a central housing government agency though it has skewed more to commercial, industrial, retail and hotels, and less to residential.[65]

7. **Liquidity pressures in the non bank sector emerged in 2018Q4 owing to a series of defaults by IL&FS, a non-Bank group, but these pressures have now been easing.** The provision of non bank credit was affected by investors reassessing the risks of funding them. The non bank sector has a balance sheet of about one sixth of the banking system. These liquidity pressures affected the funding cost for non banks, including HFCs, who are not licenced to take retail deposits. This led to a slow down in HFC loan growth from 25.8 percent in 2017-2018 to 12.7 percent in 2019, falling below SCBs housing loan growth of 19.0 percent. In addiiton, HFCs moved to short term borrowing and underwrote more non-housing loans.[66] As of late 2019, funding conditions appear to have

[65] Infonavit (Institute of the National Housing Fund for Workers)
[66] India Ratings & Research (2019). *Market Wire: Housing Finance Sector Continues to Face Multiple Headwinds*

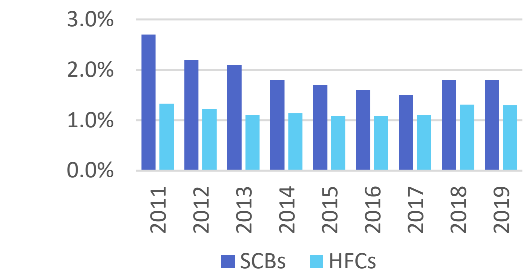
eased for some non banks, and there is greater differentiation by financial market participants based on the underlying performance of firms in the capital markets. Liquidity pressures have also eased due to the following measures: (i) asset purchases from non banks by banks; (ii) RBI's liquidity provisions through banks; (iii) a temporary and partial guarantee to PSBs for the purchase of high-quality assets from solvent non banks in the July 2019 budget; (iv) RBI's enhanced monitoring of and reporting from systemically-important non banks; and (v) more granular liquidity management requirements.[67]

8. **Since liquidity pressures are on the funding side, gross non-performing assets (GNPAs) for both HFCs and SCBs have been unaffected and have remained low, though for other sectors (including construction) the delinquency rates are still high.** Overall housing GNPAs continue to be low when compared to the overall sector's GNPA of 9.3 percent in September 2019. Over the past decade, GNPAs have been higher for SCBs than for HFCs as shown in Figure 3. HFC GNPAs have increased over the year ending in March 2018 from Rs. 91.3 billion to Rs. 135.5 billion in fiscal year 2017-18 (a 48 percent increase) but in percentage terms, increased marginally from 1.11 percent in March 2017 to 1.31 percent in March 2018. GNPAs of scheduled public sector banks also showed an uptick in 2017-18, increasing from 1.46 percent to 1.64 percent,[68] but continue to be one of the sectors with the lowest ratio GNPAs. However, liquidity pressures and construction sector issues from the IL&FS default have led to an increase in construction sector GNPAs and slippages. GNPAs in the industrial sector were 17.3 percent in September 2019, and mining and construction are a significant part of industrial loans.[69] Although some of the housing loans are for construction, these are mainly funded through capital markets and therefore the reason for the low GNPA in housing loans currently.

9. **A new type of housing finance lender has emerged in the market – AHFCs – that have brought a novel business model to the sector**. AHFCs are serving low-income, urban informal households who do not possess reliable documentation of income and are underserved by HFCs and SCBs. Given that many AHFC borrowers are new to credit, AHFCs use a diary method constructed over the course of a number of days to establish the free cash flow of a potential borrower. AHFCs' loan characteristics are: loan size between Rs. 400,000 and Rs. 1,800,000 (average Rs. 1,000,000); interest rates between 11 percent and 18 percent (average 13.5-14.5 percent); loan tenure between 7 and 20 years (typically 15 years); and LTV between 35 percent and 75 percent (typically 60 percent).[70] AHFCs outstanding loans are small relative to SCBs and HFCs, but have been growing at a much faster pace. AHFCs outstanding loans have grown from Rs. 10 billion in March 2013 to over Rs. 270 billion in December 2017, as of December 2017, AHFCs had approximately 0.3 percent of the housing finance market and are estimated to have provided 230,000 affordable homes.[71] Figure 3 shows the differences between loans and borrowers of AHFCs and SCBs/HFCs.

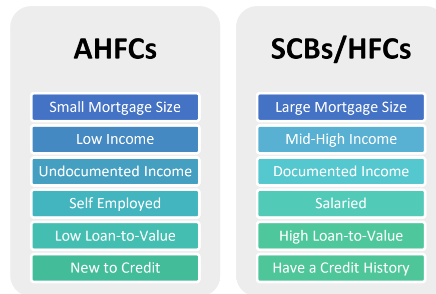
[67] International Monetary Fund (2019). I*ndia : 2019 Article IV Consultation-Press Release; Staff Report; Staff Statement and Statement by the Executive Director for India*. Washington, DC
[68] Source: NHB Trends and Progress Report 2018, based on a compilation of data submitted by Public Sector Banks.
[69] RBI (2019). *Financial Stability Report*. No. 20. Mumbai, India
[70] State of the Low-Income Housing Market 2018, Das et al, estimates based on data from 26 AHFCs.
[71] Das et al. (2018) *State of the Low-Income Housing Market 2018*

Figure 4. Housing Loans Gross Non-Performing Assets Ratios



Source: RBI and NHB[72]

Figure 5. Difference Between AHFC and SCB/HFC Loans



10. **Home ownership is an important part of India's socio-economic policy and remains a priority sector for the financial sector.** All SCBs institutions are required to extend a material portion of their credit to state-determined priority sectors. These priority sectors are: (i) agriculture; (ii) micro, small and medium enterprises; (iii) export credit; (iv) education; (v) housing; (vi) social infrastructure; (vii) renewable energy, and; (viii) others. As per the Master Circular on Priority Sector Lending, 40 percent of net bank credit must be in these sectors.[73] In June 2018 and then in April 2019, RBI increased the threshold for the size of housing loans that are eligible for this priority target. The latest limits are: Rs. 3,500,000 in metropolitan centers (with population above 1 million) and Rs. 2,500,000 in other centers.

11. **There are also a range of government funded housing programs: currently the Pradhan Mantri Awas Yojana (PMAY) is the most important.** The PMAY initiative was launched in June 2015 and aims to provide affordable housing to the poor. Its objective is to provide housing for all by 2022, the year by which it aims to build 50 million homes: 30 million in rural areas and 20 million in urban areas. The PMAY helps households in the Economically Week Sector (EWS), Low Income Group (LIG) and Middle-Income Groups I and II (MIG-I and MIG-II).[74] Housing for All by 2022 has been implemented under two broad categories: PMAY Urban and PMAY Gramin (Rural). The PMAY mission provides central assistance to urban local bodies and other implementing agencies through states / UTs across three pillars: (i) in-situ rehabilitation of existing slum dwellers using land as a resource through private participation; (ii) Credit Linked Subsidy Scheme (CLSS) through Primary Lending Institutions;[75] (iii) the Affordable Housing in Partnership; and (iv) beneficiary-led subsidies for individual house construction or enhancements.

12. **The housing finance linked subsidy program – CLSS – provides an upfront subsidy for eligible borrowers who obtain a housing loan from a participating lender.** For EWS and LIG borrowers, the CLSS provides an upfront subsidy of up to Rs. 267,280 on the first Rs. 600,000 of a housing loan, calculated as the net present value of the interest of a fixed payment mortgage of up to 20 years at an interest rate of 6.5 percent. EWS and LIG borrowers must have a woman as a co-owner or be the borrower herself. For MIG-I and MIG-II the subsidy is for the first Rs. 900,000 and Rs. 1,200,000 of a housing loan, and is the net present value of the interest of this value (or below) at an interest rate of 4 and 3 percent over 20 years. Figure 4 and Figure 5 show the value of the subsidy and the percentage of the subsidy for different loan amounts. Up to the thresholds of Rs. 600,000, Rs. 900,000 and Rs.

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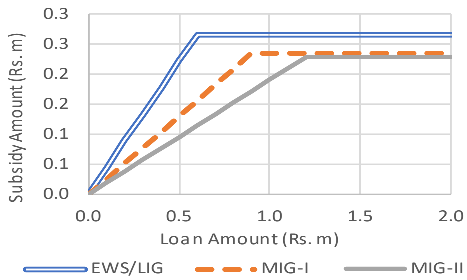
[72] SCBs' 2018 and 2019 GNPA are for retail loans, which housing is the plurality of.
[73] See https://m.rbi.org.in/Scripts/BS_ViewMasDirections.aspx?id=10497
[74] EWS households are those having annual income below Rs. 300,000 and a carpet area of less than 30 square meters; LIG between Rs. 300,000 and Rs. 600,000 and a carpet area of less than 60 square meters; MIG-I between Rs. 600,000 and Rs. 1,200,000 and a carpet area of 160 square meters, and; MIG-II between Rs. 1,200,000 and Rs. 1,800,000 and a carpet area of less than 200 square meters.
[75] PLIs primarily include SCBs and HFCs.

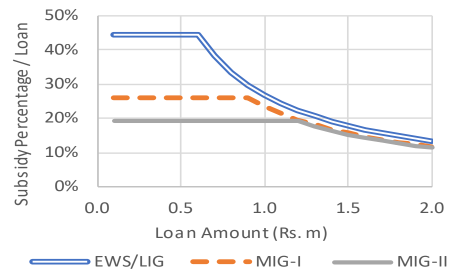
1,200,000, EWS/LIG is a 45 percent subsidy, MIG-I is a 26 percent subsidy and MIG-II is a 19 percent subsidy. Beyond these thresholds, the subsidy percentage decreases exponentially as shown in Figure 5.

Figure 6. CLSS Upfront Subsidy Amount



Source: WB Staff Calculations

Figure 7. CLSS Upfront Subsidy Percentage



Source: WB Staff Calculations

13. **These programs have been popular, though the vast range of housing program and requirements has been reported to be confusing for the market.** As of December 2019, a total of 10.3 million houses have been sanctioned under PMAY. Two thirds of these are from the fourth pillar of PMAY, the beneficiary led construction (BLC) which is an upfront building subsidy of Rs. 150,000 to eligible borrowers. Total CLSS subsidies to December 2019 were Rs. 203 billion and total PMAY investment in projects was Rs. 6 billion. These programs are designed to be cost and risk sharing, and the CLSS works with the housing finance market. In terms of leveraging private capital and by providing subsidies at the appropriate juncture in a borrower's financial decision tree, these programs have good design features. However, the vast suite of programs and the urban-rural distinction does cause market confusion and increases transaction costs. Looking forward, in addition to gradually downscaling the PMAY-U income thresholds for mortgage subsidies (see Table 4), consolidation of these national programs could be beneficial.

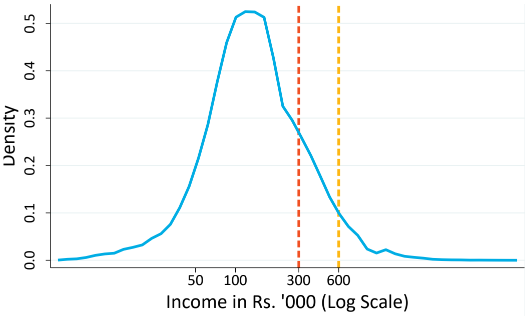
Affordability

14. **Tamil Nadu ranks lower than other Indian states in terms of the poverty headcount ratio and higher in terms of MPCE and wealth.** In 2012, the poverty rate for urban Tamil Nadu (TN) was 5.3 percent, lower than the urban India average of 9.7 percent.[76] In terms of expenditure, the median MPCE for TN urban area was Rs. 2,038, which was 9.2 percent higher than the national urban MCPE median of Rs. 1,866. On average, urban households in TN spend 19.3 percent of monthly consumption on rent, compared to 17.4 percent across India (conditional on being a renter). Using 2013 data, the median household wealth in urban TN was Rs. 1,438,050, which was much higher than the corresponding median value of Rs. 540,850 across urban India.[77]

15. **Housing loans are prevalent across the income distribution and are used for repairs as well as new construction, while flood risk is higher in urban TN.** Using data from 2012, 53.1 percent of households in urban TN had a housing loan (including mortgages) compared to 17.2 percent across urban India, with the median across urban India at Rs. 150,000. Almost a third of households in decile one of the wealth distribution had a housing loan and two-thirds of all housing loans were sourced from institutional lenders. Across India, urban households on average spent Rs. 278,954 for housing construction with the median at Rs. 60,000. Dwellings in urban TN are 3.4 square meters larger than urban dwellings in urban India at 35.8 square meters.[78] Moreover, reported historical household flood incidence was double in TN compared with the national urban average; 10.2 percent of urban TN households reported experiencing a flood.

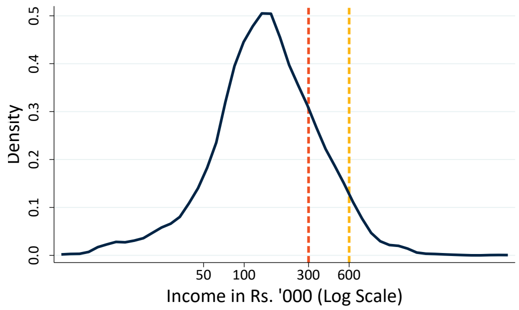
[76] India National Sample Survey Organization (NSSO) 68th Round, Household Consumer Expenditure, 2011-2012.
[77] India National Sample Survey Organization (NSSO) 70th Round. All-India Debt and Investment Survey, 2013.
[78] India National Sample Survey Organization (NSSO) 69th Round. Drinking water, Sanitation, Hygiene, Housing condition, 2012.

Figure 8 India Household Income Distribution 2018



Source: NSS 68, HDS-II and IMF
Note: 87.8 percent of households are below Rs. 300,000 (EWS) and 96.6 percent are below Rs. 600,000 (LIG)

Figure 9 Urban TN Household Income Distribution 2018



Source: NSS 68, HDS-II and IMF
Note: 80.7 percent of households are below Rs. 300,000 (EWS) and 94.6 percent are below Rs. 600,000 (LIG)

16. **Households beyond the EWS and LIG thresholds represent the top twenty and the top five percent in urban TN.** The 2018 household income distribution for India and urban TN are constructed by mapping expenditure to income and then using survey-to-survey imputation methods to update the data to 2018 values.[79] For 2012, as per this estimation, the mean and median annual household income for the urban TN was Rs. 117,982 and Rs. 80,924. Using survey-to-survey imputation methods, the 2018 income distribution is shown in Figure 6 for India and in Figure 7 for urban TN. Both graphs also include vertical lines for the EWS and the Low-Income Group (LIG) at Rs. 300,000 and 600,000. For urban TN, 80.7 percent of households are below the EWS threshold and 94.6 percent are below the LIG threshold.

17. **Looking at each of the deciles of the income distribution in urban TN, the human capital, poverty and housing liabilities vary across these categories; further, LIG starts from decile ten.** Table 1 shows this detailed household information for each of the deciles across the income distribution for 2012. Each decile has just under a million households. Household size increases across the deciles. Poverty rates and lower educational outcomes are concentrated in the lower four deciles. Rent as a percentage of household income varies for 22.7 to 18.3 percent, which is in line with global averages. For 2012, LIG and upwards only commences in decile 10, this is indicative of where the housing finance market is currently. Mapping assets to incomes, shows that housing loans (including but not exclusively mortgages) are prevalent across the income distribution, with the mean housing loan in decile 5 at Rs. 268,400. This is commensurate with the average house construction or purchase price of Rs. 326,889.

Table 3. Characteristics of Urban Households by Decile, Tamil Nadu, in 2012

Decile	1	2	3	4	5	6	7	8	9	10
Number of Households	901,310	903,487	894,918	901,965	900,777	896,102	904,211	898,486	895,731	899,500
Avg. HH Size	1.5	2.5	3.2	3.6	3.5	3.8	3.9	3.9	4.1	4.6
Poverty (%)	18.6	14.8	11.5	4.3	0.7	1.1	0.3	0.0	0.0	0.0
Literacy (%)	65.8	78.3	76.8	83.0	85.7	88.4	90.6	95.3	94.6	96.8
Education ≥ Sec. (%)	13.5	20.1	18.0	17.1	30.1	26.1	32.9	46.6	48.1	66.2
Education ≥ Primary (%)	37.4	48.4	45.7	54.4	62.3	63.0	71.1	79.7	78.8	91.8
Renters (%)	35.7	38.0	38.2	41.9	43.8	42.8	59.1	57.6	50.7	45.8
Rent to Inc [Actual] (%)	22.7	18.1	16.3	17.9	15.1	19.3	21.5	20.9	18.1	18.3
Rent to Inc [Imputed] (%)	51.9	32.4	27.9	25.9	24.4	25.3	29.3	23.7	21.9	24.7
Median Annual Inc (Rs.)	16,904	36,251	48,841	60,835	73,959	87,477	106,082	140,679	196,183	337,876
Mean Annual Inc (Rs.)	16,828	36,296	49,164	61,162	74,307	87,830	106,664	140,547	201,619	422,991
Median Monthly Inc (Rs.)	1,409	3,021	4,070	5,070	6,163	7,290	8,840	11,723	16,349	28,156

[79] Expenditure to income estimation was performed using an ancillary survey (India Human Development Survey-II (IHDS-II)) and Chancel, L., & Piketty, T. (2017). Indian income inequality, 1922–2015: From British Raj to Billionaire Raj? WID. world Working paper series, (2017/11).

Mean Monthly Inc (Rs.)	1,409	3,021	4,070	5,070	6,163	7,290	8,840	11,723	16,349	28,156
Income Category	EWS	EWS	EWS	EWS	EWS	EWS	EWS	EWS	EWS	EWS/LIG/MIG/HIG
Has Housing Loan (%)‡	29.0	56.3	64.4	63.8	56.8	48.5	29.7	63.2	61.9	57.5
Median Housing Loan (Rs.)‡	40,000	50,000	54,500	92,000	100,000	128,000	162,500	325,000	300,000	675,000
Mean Housing Loan (Rs.)‡	40,479	56,389	80,286	144,727	268,400	252,900	207,500	488,333	428,833	1,000,833

‡ The housing and mortgage loan data is from the 70th round survey of NSSO All-India Debt and Investment Survey (AIDIS), where income data is not but asset data is available. The loan statistics are mapped with the deciles of income distribution via the deciles of asset distribution. Housing and mortgage loans are combined together.

Table 4. Stylized Mortgages from the Housing Finance Sector

	Bank / HFC			**AHFC**	
	Rs.	USD		Rs.	USD
Mortgage Value	2,200,000	31,000		1,100,000	16,000
Upfront Subsidy (CLSS)	267,000	4,000		267,000	4,000
LTV	0.8	0.8		0.7	0.7
Loan Amount	1,546,000	22,000		583,000	8,000
Interest Rate	9%	9%		14%	14%
Tenor (years)	20	20		20	20
Monthly Re-Payment	14,000	200		7,000	100
Debt to Income Ratio	0.3	0.3		0.4	0.4
Imputed Monthly Income	46,667	670		17,500	250
Imputed Yearly Income	560,000	8,000		210,000	3,000
Imputed Income Category	LIG	LIG		EWS	EWS

Note: FX USD:Rs. = 70 used to convert currencies. All numbers rounded to thousands, hundreds or tens for ease of understanding.
CLSS = Credit Linked Subsidy Scheme. LTV = Loan to Value. LIG = Low Income Group. EWS = Economic and Weaker Sections.

18. **To understand the implications for these income categories on the current state of the housing finance market, stylized LIG and EWS mortgages are constructed.** There are a range of housing finance program and institutions in India: banks, housing finance companies (HFCs), and AHFC as well as the Affordable Housing in Partnership (AHP) and the Credit Linked Subsidy Scheme (CLSS). Table 2 shows stylized mortgages from: (i) banks or HFCs, and (ii) AHFCs. AHFCs provide mortgages to those with irregular incomes and hence these mortgages have higher monitoring and funding costs. As a result, loan to value (LTV), interest rates and debt to income ratios make these mortgages more risky and expensive, but are a crucial institution for the EWS population as bank or HFCs loans are often beyond reach of this population.

19. **Using the 2018 urban TN income distribution, it is possible to construct a housing affordability matrix on the demand side**. This is shown in Table 3. Using the mean monthly income for each decile, mortgages assumptions are made on loan to value, debt to income, interest rate, tenor, availability of credit linked subsidy scheme (CLSS) to impute a mortgage value for each decile. These are demand side and therefore do not represent market outcomes, but instead provide ranges for mortgage affordability if the market is present. Currently for urban TN, those from deciles 6 and 7 have access to AHFC mortgages and those from 8 and above have access to bank and HFC mortgages. Comparison with the mean housing loans from Table 1 highlights the difference in housing loans more broadly (which include construction for extensions and repair) to mortgages. The introduction of banks to the housing finance market in the early 1990s and the more recent AHFC entry have deepened the market from the higher deciles – as that is the provenance of mortgage markets globally. As these higher deciles are increasingly served and as incomes improve with simultaneous technological advances to allow for new financial instruments, the lower deciles should be able to access more housing finance.

Table 5. Housing Affordability Matrix for Urban Tamil Nadu, 2018

Decile	1	2	3	4	5	6	7	8	9	10
Mean Annual Inc (R.s)	30,290	65,332	88,495	110,091	133,753	158,095	191,996	252,985	362,915	761,383
Mean Monthly Inc (Rs.)	2,536	5,438	7,326	9,125	11,094	13,122	15,912	21,102	29,427	50,681
Income Category	EWS	EWS	EWS	EWS	EWS	EWS	EWS	EWS	EWS/LIG	LIG/MIG/ HIG
Imputed Price of Affordable House with CLSS (Rs.)	150,000	320,000	430,000	540,000	650,000	770,000	1,200,000	1,210,000	1,560,000	2,400,000
Imputed Price of Affordable House with CLSS (USD)	2,100	4,600	6,100	7,700	9,300	11,000	17,100	17,300	22,300	34,300

Notes: Imputed mortgages calculated using market value of debt to income, loan to value, tenor, interest rates and availability of CLSS subsidies for each decile based on market feedback and market assumptions. FX or USD:Rs. of 70 used.

20. **Given that the mortgage market currently starts from decile 6, mortgage subsidy income thresholds should be gradually reduced over time to expand affordable mortgage finance needs.** The PMAY-U also has a beneficiary led construction (BLC) pillar which provides a Rs. 150,000 subsidy for construction, and as of December 2019, a total of 6.2 million houses have been constructed under this pillar. Data for the progressivity of the BLC are not available. However, for the CLSS mortgage subsidy, the market is currently estimated to start from decile 6. Table 4 shows the PMAY income thresholds as well as two additional thresholds: Rs. 50,000 and Rs. 100,000. Looking ahead, the mortgage market should strive to target those at these lower income thresholds. AHFCs have developed a new business model for those with irregular incomes and those new to credit to move the mortgage market down.

Table 6. Characteristics of Income Bands Across India and Tamil Nadu in 2012

		India		Urban India		TN		Urban TN	
Category	**Range ('000)**	**Pop**	**Poverty**	**Pop**	**Poverty**	**Pop**	**Poverty**	**Pop**	**Poverty**
EWS	<300	95.97	18.28	90.53	10.75	96.11	10.33	93.01	5.52
LIG	300-600	3.04	0.17	6.93	0.00	2.93	0.00	5.47	0.00
MIG I	600-1,200	0.83	0.00	2.14	0.00	0.90	0.00	1.39	0.00
MIG II	1,200,-1,800,	0.12	0.00	0.29	0.00	0.03	0.00	0.05	0.00
HIG	≥ 1,800	0.05	0.00	0.12	0.00	0.03	0.00	0.07	0.00
IB1	≤50	39.02	34.21	22.41	24.50	37.52	22.58	26.07	15.61
IB2	50-100	35.39	10.79	31.86	11.68	36.69	3.93	36.73	2.86
IB3	≥100	25.59	1.49	45.73	1.13	25.79	0.06	37.21	0.04

Notes: EWS = Economic Weaker Section, LIG=Low Income Group. MIG=Middle Income Group, HIG=High Income Group. These income thresholds match the Pradhan Mantri Awas Yojana (PMAY). IB1-3=Income Band (additional, within EWS)

21. **Female headed households in Tamil Nadu have less income than male headed households, and are more likely to be renters and slum dwellers.** In Tamil Nadu, there is a higher share of households headed by female in both, urban and rural areas, compared to the national average, at 17 percent and 12 percent, respectively. However, in Tamil Nadu fewer female headed households own their dwellings compared to male headed households, with the female headed household's propensity to be renters being higher than male's by seven percentage points. Females who head households have lower levels of literacy and education than their male household head counterparts in urban Tamil Nadu. Female headed household have dwellings that are less overcrowded, though these households are more likely to be slum dwellers. Interestingly, female headed household have a 17 percentage point spread over male ones in terms of incidence of housing loans. Poverty, rental share of income, tenure of dwelling, soundness of structure and the size of housing loans are not statistically different for male and female headed households. These statistically significant results are shown in Table 5. In other results, female headed households also have significantly worse water, sanitation and electricity outcomes.

Table 5: Bivariate Regressions of Household Characteristics on Gender of Household Head

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
	HH Size	Literate	Prim Ed	Renter	Log Inc	Overcrowd	In Slum	Hse Loan
Female HHH	-1.28***	-0.17***	-0.20***	0.07**	-0.72***	-0.04**	0.04***	0.17*

	(-16.93)	(9.92)	(-8.54)	(2.72)	(-17.27)	(2.60)	(3.63)	(2.07)
Observations	3,328	3,328	3,328	3,328	3,328	2,856	2,856	3,66

Note: t statistics in parentheses. *p < 0.10, **p < 0.05, ***p < 0.01. Each cell is a bivariate OLS regression of the column variable on the a indicator variable of whether a household is female headed and a constant for urban households in Tamil Nadu. The constant is suppressed. Regressions weighted with household weights. Data are from NSSO 68th, 69th and 70th rounds on consumption (columns 1 through 5), housing (columns 6 and 7) and assets (column 8). Different surveys explain different number of observations. Income is calculated by decile ratios of income and consumption from Chancel, L., & Piketty, T. (2019). Indian Income Inequality, 1922-2015: From British Raj to Billionaire Raj?. *Review of Income and Wealth*, *65*, S33-S62. 'Log Cons' is the logarithm of income measured at the household annual level. Overcrowded is a measure of rooms per number of household members which is coded as above 0.5 rooms per person. This is the 20th percentile and corresponds to 47 square feet per person. In slum are dwellings that are notified slum, non-notified slum or squatter settlements.

Mixed Income Housing Examples

22. **To date, private sector involvement in low-income housing in India has largely been through reservation mandates, where some development regulations require large projects to include a fixed quantum of low-income housing.**[80] A study on the outcomes of such mixed-income housing in the US highlights the positive impacts including satisfaction with housing quality, neighborhood services, and public safety.[81] TNSF will need to mainstream the development of mixed income housing in order to meet its social objectives. This subsection provides examples of mixed income housing developments and distills the lessons from these developments.

23. **The key to creating successful mixed-income housing models is maintaining affordability of the low-income housing stock.** Many states in India currently do not mandate the prices at which units are sold, which is an impediment to ensuring efficient allocation and targeting.[82] Some states, like Haryana, have addressed this by fixing the selling prices of affordable housing units in residential sectors falling in municipal limit.[83] [84] The state of Maharashtra allots both public sector and private sector stock of low income housing to intended beneficiaries through a lottery system, after the state purchases private sector constructed units at predetermined rates.[85]

24. **To encourage successful mixed-income housing models, this subsection reviews mixed-income housing developments to assess the current state of the market and glean lessons.** The eight case studies are organized under four themes: (i) design innovation; (ii) cost efficiency; (iii) product mix; and (iv) allotment. An 'Other' category is also included for cases that encompass multiple themes. These are summarized in Table 6.

25. **Across India, private sector contribution to low income housing is largely enabled through regulatory reservation mandates , but the units developed often do not reach the intended beneficiaries.** This is driven by the fact that while reservation mandates ensure low income housing units (by size) are made available in the market, in many states their selling price is not capped and targeting of the poorer households is not addressed adequately. Appropriate policies (including incentives and possibly subsidized land) and better targeting from the public sector are necessary to effectively ensure that these units reach the lower income groups. Current targeting is primarily based on prior ownership and compliance to this is not perfect as some report second time buyers availing reserved units. Thus, it is imperative that adequate policy measures are taken to make units affordable by price (and not just by size).

26. **Some state governments in India have developed policies and guidelines to ensure that these units reach the lower income groups through supervised allotment or buy-back of units at predetermined rates.** For instance, the state governments of Haryana and Maharashtra are forerunners in devising appropriate policies to effectively address the needs of lower income groups. The state of Haryana rolled out an Affordable Housing Policy in 2013 (before PMAY) and has been steadfast in its commitment as evidenced by the fact that it has made policy amendments to align with the national affordable housing agenda (wherein beneficiaries are identified by

[80] The definition of 'large' developments covered by the regulations vary by state and the fixed quantum can be provided as plots (in the case of layouts) or built area
[81] LevyD.K, McDadeZ., Bertumen K., (2013) *Mixed-Income Living: Anticipated and Realized Benefits for Low-Income Households*, Urban Institute, Cityscape: A Journal of Policy Development and Research, Volume 15, Number 2, U.S. Department of Housing and Urban Development, Office of Policy Development and Research, *https://www.huduser.gov/portal/periodicals/cityscpe/vol15num2/ch1.pdf*
[82] Based on a review of the Tamil Nadu Combined Development and Building Rules, 2019
[83] Based on information available online at: https://tcpharyana.gov.in/Policy/Misc-973_AHP_PMAY-2018.pdf
[84] Ibid
[85] Draft Development Control and Promotion Regulations for Pune Municipal Corporation (DCPR-2017)

the PMAY scheme).[86] It states that the low income housing units created by the private sector shall be allotted to intended beneficiaries at fixed rates, under the supervision of the government. The cost is also capped by fixing the construction timelines, thus avoiding cost escalations during the development of the project. In Maharashtra, new regulations require twenty percent of the net plot area either as developed plots or as plot equivalents to be handed over to MHADA at prescribed land rates.[87] In the case of housing schemes, affordable housing tenements shall be constructed at least to the extent of 20 percent of the basic FSI subject to specified conditions. The functions of CIDCO, the a government planning authority for the City of Mumbai, include providing low income housing to deserving beneficiaries through a lottery system as well as cross-subsidisation.[88]

27. **Developers are innovating in design as well as investing in research and development (R&D) of low-cost technology to improve the quality of life, while reducing the price of units.** The masterplanning of most case examples examined shows that there is consistency and commitment to quality in design and construction of all types of housing and common amenities. Via Verde is an international benchmark for exemplary design that ensures sustainability and good health outcomes for its residents. The project demonstrates what is possible when cross-sector partnerships are formed to pave the way for the future of high-quality, sustainable, and affordable housing.[89] Future Towers in Pune exhibits a mix based on the Dutch model of diversity (horizontal and vertical mixing of units of different sizes). Happinest Avadi also exemplifies the adoption of low-cost technologies to reduce operational expenses, and thereby passes on the savings to its customers.

28. **Common operations and maintenance (O&M) costs are likely to cause additional financial stress to lower-income groups.** O&M cost is point of contention in mixed-income housing, where people from different economic backgrounds are living and sharing amenities and spaces. While this will help create a sense of ownership and pride of common spaces amongst the residents, poorer residents may find the burden to be disproportionate to their affordability. However, through good design and use of technology, overall maintenance costs can be lowered.

29. **Global experiences show that rent subsidies or rent control have provided relief to intended beneficiaries but are known to create long term distortions in the housing market.** It is also occupied by a higher income demographic (in cities like New York).[90] In many countries including India, it has been observed that a general consequence of rent control is low yields of new housing stock that does not keep pace with real estate price increases,[91] and there is poor maintenance of the rental housing stock.

30. **Tax incentives on the supply side are seen to be only a half measure, as the housing units sold would still be a part of the market after a specified term and will see a rise or fall in prices accordingly.** An example of the supply side tax incentive is the Low-Income Housing Tax Credit (LIHTC) which subsidizes the acquisition, construction, and rehabilitation of affordable rental housing for low- and moderate-income tenants in the US.[92] While this system has been less capital intensive for the government, it has been less effective (often serve households that make an average of 60 percent of Area Median Income (AMI))[93] in comparison to cooperative housing systems such as the Community Land Trusts (CLTs), that keeps housing affordable for a long time and for intended beneficiaries.[94] In Germany, similar tax incentives have been provided, however, landlords have not

[86] Affordable Housing Policy (PMAY) 2018 has been notified facilitate creation of additional affordable housing stock in the urban areas of the State and indicates that this policy '*shall be co-terminus with the PMAY scheme of Govt of India and shall end with the end of PMAY scheme'*. Based on information available online at: *https://tcpharyana.gov.in/Policy/Misc-973_AHP_PMAY-2018.pdf*
[87] Rule 15.6.2(a), page 39, Draft Development control and promotion regulations for Pune Municipal Corporation (DCPR-2017)
[88] Based on information available online at: *http://cidconewtowns.gov.in/*
[89] (2012) *Model of Excellence Awards, 2012 Winner,* Jack Kemp Workforce Housing, Urban Land Institute, Terwilliger Centre for Housing
[90] Rajasekaran.P, Treskon.M and Green.S (2019), Rent Control. What Does the research tell us about the Effectiveness of Local Action? Pg 8. Urban Land Institute.
[91] (2015) *National Urban Rental Housing Policy (Draft),* pg 13*,* Ministry of Housing and urban Affairs, Government of India.
[92] Information available online at: *https://www.taxpolicycenter.org/briefing-book/what-low-income-housing-tax-credit-and-how-does-it-work*
[93] Payton. S.C, Gold.A and Dubois.N (2018), *The Low Income Housing tax Credit*, How It Works and Who It Serves. Pg 13. Research Report, Urban Land Institute.
[94] Information available online at: *https://www.lincolninst.edu/publications/articles/community-land-trusts*

been able to find tenants who satisfy a maximum income threshold criteria.[95] Such housing units have then been sold to any affording tenant at market rates if the government is unable to find a suitable low-income tenant within a specified time period.[96]

31. **Successful examples of social housing ensure close proximity to the city centre or to active commercial nodes and livelihood opportunities.** Quinta Monroy in Chile and Savonnerie Heymans in Brussels are two such international examples that are located strategically near city centres (less than 0.8 km) in the case of Savonnerie. In the case of Quinta Monroy, high land cost, infrastructure and architecture together were built into a US$ 7,500 government subsidy, per family, resulting in a 30 sq.m home for each household.[97] In this study, projects examined in the cities of Pune, Gugaon, and Kolkata are located within a 20 km distance from the CBD, whereas projects studied in the city of Chennai have been observed to be located further away, beyond 20 km and even as far as 45 km. Cities have different commercial and job centres but what is essential for the sustenance of affordable housing projects is connectivity to jobs and social amenities via roads and public transit infrastructure. The location of affordable housing projects, should therefore avoid ghettoisation and ensure that essential services and jobs can be reached through a convenient commute. There are also climate change implications for housing individuals far away from their place of work or schooling.

[95] The same challenge has been observed in the US.
[96] Holmans.A, Scanlon.K and Whitehead.C M. E. (2002) Fiscal policy instruments to promote affordable housing. Pg 76. Research Report, VII. Cambridge Centre for Housing and Planning Research, Cambridge, UK
[97] Information available online at: *https://www.arch2o.com/successful-public-housing-projects/*

Table 6: Summary of Eight Case Studies across Themes

Topic	Amanora Park Town Future Towers, Pune, India	New Haven Ribbon Walk, Chennai, India	Happinest Avadi, Chennai, India	Upohar The Condoville, Kolkata, India
Main Theme	Design Innovation (for increased environmental responsibility, improved economic viability, and enhanced social cohesion)	Design Innovation (for increased environmental responsibility, improved economic viability, and enhanced social cohesion)	Cost Efficiency (to ensure efficient buildings, low cost of ownership and low long-term cost of maintenance)	Product Mix (to holistically and meaningfully address mixed-income housing)
Development Context	A state mandate for townships as a whole to provide ten percent of units under 400 sq.ft (37.16 sq.m) in size to EWS/LIG segments.	A state mandate that stipulates the provision of ten percent of housing for lower income groups in large developments.	A state mandate for large developments to reserve ten percent of site area and provide housing thereon for lower income groups with dwelling units not exceeding 45 sq.m in floor area each.	A foundational intention that no urban settlement can be sustained unless it cuts across sections of society; a cross subsidized model for LIG/ MIG housing.
Total Number of Units	1068 units	1697 units	1268 units	1272 units
Distance to CBD; Size of Project	~15 km; 400 acres (Amanora Park Town of which Future Towers is a component)	~45 km; 15 acres	~22 km; 13.22 acres	~18 km; 18 acres
Innovation	Introduction of the Dutch model of diversity as a unique architectural response to the provision of affordable housing within the Indian context.	Balanced mix of unit types (horizontally within blocks) and a continuous public realm, accessible to all residents in a coherent masterplan.	Introduction of low-cost solutions for building services and maintenance of common amenities.	Visionary yet practical approach to introducing product mix; introduction of education, commercial, retail as well as commercial office spaces.
Unit Size and Pricing	Size:** 1 BHK: 527 sq.ft (49.0 sq.m) 2 BHK: 822-966 sq.ft (76.4-89.7 sq.m) 3 BHK: 2707-2746 sq.ft (251.5-255.1 sq.m) 4 BHK: 2995 sq.ft (278.2 sq.m) Pricing: Between ~Rs 5000-Rs.7000 per sq.ft, with no subsidies/discounted prices for the smallest units.	Size:** 1 BHK: 597-612 sq.ft (55.5-56.9 sq.m) 2 BHK: 603-1,422sq.ft (56.0-132.1 sq.m) 3 BHK: 1549 sq.ft (143.9 sq.m) Pricing: Launched at ~Rs 3800-4000 per sq.ft	Size:* 1 BHK: 348.11 sq.ft (32.3 sq.m) 2 BHK: 452.63 sq.ft (42.1 sq.m) Pricing: ~Rs 5200 per sq.ft	Size:** 1 BHK: 583 sq.ft (54.2 sq.m) 2 BHK: 836 sq.ft (77.7 sq.m) 2-5 BHK: 1200-5606 sq.ft (111.5-520.8 sq.m) Pricing: ~Rs 6400 per sq.ft.
Main Findings	Design innovation in mixing income groups improves saleability; however, the market outcomes of the final occupants conflates size and income group. Allotment: New regulations mandate reservation of twenty percent of the net plot area either as developed plots or as plot equivalents to be handed over to Maharashtra Housing and Area Development Authority (MHADA) at prescribed land rates. This will have to be followed in future Amanora Park developments.	Design innovation has created an attractive masterplan for a cross-section of residents, but prevailing allotment and price mechanisms have priced out lower income groups.	While this project integrates EWS and LIG within the same block through good design principles and lower cost technologies to make units affordable, the cost is still higher than average.	Planning separate and self-sufficient neighbourhoods with dedicated amenities ensures client satisfaction while also creating mixed income neighbourhoods.

Topic	Purva Windermere, Chennai, India	Solera Sector 107, Gurgaon, India	Girdharnagar Slum Rehabilitation and Redevelopment; Vastral, Ahmedabad, India	Via Verde, New York, USA
Main Theme	Product Mix (to holistically and meaningfully address mixed-income housing)	Allotment (to ensure low-income housing reaches the intended beneficiaries)	Others (additional insights on the provision of mixed-income housing)	Others (additional insights on the provision of mixed-income housing)
Development Context	A state mandate for townships as a whole to provide of ten percent of project area, as units under 45 sq.m, to cater to the lower income groups.	The state of Haryana's Affordable Housing Policy (2013) which encourages planning and completion of group housing through projects where units of 'a predefined size' are made available at 'a predefined rate', within 'a targeted timeframe'.	The state of Gujarat's Slum Rehabilitation and Redevelopment Scheme PPP (2013) and the Affordable Housing Policy (2014) at Girdharnagar and Vastral, respectively.	A design competition with the mission of fostering innovative design solutions, addressing affordability, sustainability, transferability and viability as well as demonstrating methods to lower lifetime building costs.
Total Number of Units	2688 units	1000 units	Girdharnagar-609, Vastral-1056 units	71 units (cooperatives for middle income groups), 151 units (rental for low income groups)
Distance to CBD; Size of Project	24 km; 55 acres	~17 km; 6.13 acres	CBD: Sarkhej- Gandhinagar Highway: Girdharnagar- ~12.5km, 3.87 acres Vastral- 20 km; 4.62 acres	~12 km; 1.5 acres
Innovation	Focus on an efficient and equitable masterplan.	Government supervised allotment of low income units, at fixed rates.	Effective utilization of transfer development rights (TDR) in the slum rehabilitation model and effective allotment of low income units, done on the basis of prior demand assessment.	International best practice in process, design innovation as well as sustainability in the delivery of affordable housing.
Unit Size and Pricing	**Size:**** 1 BHK: 611-620 sq.ft (56.8-57.6 sq.m) 2 BHK: 1243-1255 sq.ft (115.5-116.6 sq.m) 3 BHK: 1922-1944 sq.ft (178.6- 180.6 sq.m) 4BHK: 2691-2712 sq.ft (~250 sq.m) **Pricing:** ~Rs 5040 per sq.ft with no discounted rates for the smaller units	**Size:*** 1 BHK: 307.91 sq.ft (28.6 sq.m) 2 BHK: 487.68-546.82 sq.ft (45.3-50.8 sq.m) **Pricing:** ~Rs 1,231,000 to Rs 2,187,000 i.e., ~Rs 3900 per sq ft (allotment rate capped at Rs.4000 per sq.ft for Gurgaon)	**Size:** Girdharnagar EWS unit*- 269 sq.ft (25 sq.m) Vastral EWS unit - 301 sq.ft (28 sq.m) **Pricing:** Girdharnagar- Free of cost Vastral- The maximum selling price as stipulated by the Affordable Housing Policy (2014); capped at Rs 3 lakhs for EWS	**Size:** 1 bed unit: 795 sq.ft (73.9 sq.m) 2 bed unit: 872-1146 sq.ft (81-106.5 sq.m) 3 bed unit: 1584 sq.ft (147.2 sq.m)
Main Findings	Effective masterplan with an even distribution of lower and higher income units across the plan, ensures equitable access in theory; lack of appropriate allotment mechanism to EWS/LIG beneficiaries minimises social benefits.	(i)A controlled and supervised allotment enables full transparency and improved provision of affordable housing, especially in highly expensive areas of the city. (ii) Units allotted at one go within four months of sanction of building plans or receipt of environmental clearance, whichever is later, and possession of flats offered within the validity period of 4 years of such sanction/clearance.	(i) The PPP model encourages developers to buy additional FSI from those who possess slum TDR, (ii) Higher beneficiary contribution and demand-driven approach has been explored in the "Public agency on public land" model (iii) Optimal locations provided for affordable housing (not far from the city centre) through land made available by urban local bodies (iv) Strict resale clauses with beneficaries of EWS/LIG housing in the "Public agency on public land" model not being allowed to sell/sublet their units for at least 7 years (those availing MIG units are not allowed to do so for at least 5 years). **Allotment:** **(i) PPP model:** developers allot the houses to eligible slum dwellers by a computerized draw in their presence and supervision of the implementing agency. **(ii) Public agency on public land model:** government creates a list of beneficiaries (based on income brackets) and allotment is through a lottery system.	Holistic approach to mixed income housing through the mixing of income groups (low and moderate income), as well as mixing tenure.

*- Carpet areas / **- Super built-up areas