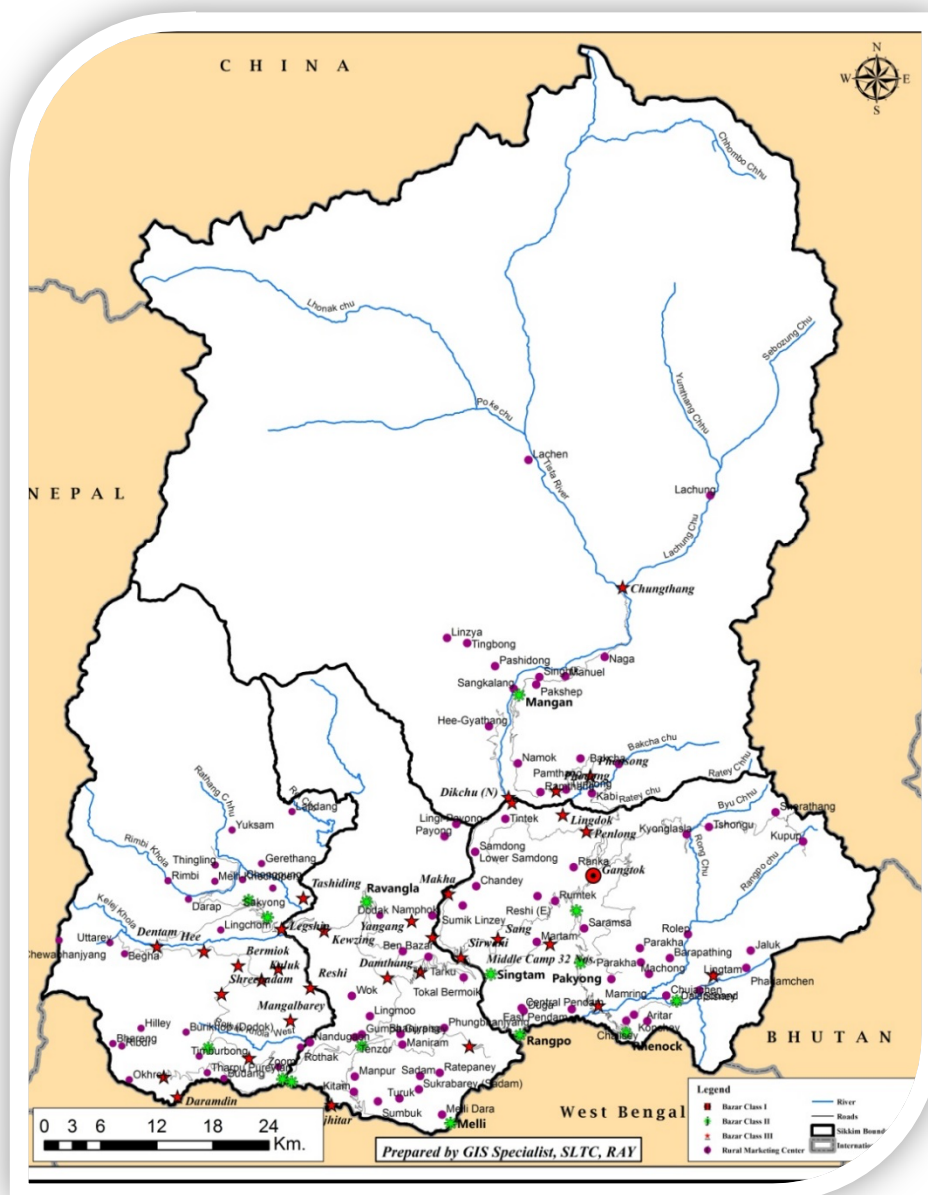


GOVERNMENT OF SIKKIM

Vision 2047

...concept note



URBAN DEVELOPMENT DEPARTMENT
JUNE 2022

Concept paper on vision 2047 for urban development in Sikkim is to lay out a blueprint for the approach in promotion, upgradation and management of urban centres and its influence zone for the perceived “Amrit Kaal” for the next 25 years

SUMMARY

As India sets to complete 75th year of its independence on 15th August this year, work has already started on the blueprint for India@2047- a vision plan for a 'future ready India' that befits the 100th year of Indian Independence. Urban landscape is amongst the many sectors identified for planned intervention to achieve the desired output for future ready India. The vision 2047 concept paper on urban development for the State of Sikkim is a strategic document underlying the desired intervention to achieve the vision of achieving equitable urbanization with promotion of well-connected adequate urban centers as loci of economic growth. The intervention covers all sub-sectors like the institutional and legal framework, urban planning and governance, housing and mobility, technology transfers and financing sources. It is least to state that some of the interventions perceived for a long term planned development has already been initiated, some already on the anvil and some yet to be perceived. All these interventions have been proposed with a timeline and perceived to fit in the special requirements of the tiny Himalayan state aligned with the vision of this great country as shared goals and co-operative federalism. The reflections in PRAJAs “Urban Governance Index 2020” and “Reforms in Urban Planning Capacity in India 2021” by NITI Aayog has been the base on which the ongoing and proposed interventions have been intertwined to evolve into a strategy across all sub-sectors of the urban landscape.

The concept note gives a brief on the genesis of urban development and urbanization trends in the state. It is composed of three sections and ten subsections with specific recommendations in the sub-sectors and can be used as a guiding document for planned urban development for the next two decades with a decadal midterm review and course correction in 2032 to culminate in 2047.

**“IF YOU FAIL TO PLAN, YOU ARE PLANNING TO FAIL”
: BENJAMIN FRANKLIN**

ABBREVIATIONS

ADB	Asian Development Bank
AFD	Agence Francaise de Developpement
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
BRTS	Bus Rapid Transit System
CCTV	Closed Circuit Television
CT	Census Town
CWAP	City Water Action Plan
DEA	Department of Economic Affairs
EV	Electric Vehicle
GCF	Green Climate Fund
GDP	Gross Domestic Product
GIS	Geographic Information System
JICA	Japan International Cooperation Agency
LAP	Local Area Plan
MoF	Ministry of Finance
MoHUA	Ministry of Housing and Urban Affairs
MoRTH	Ministry of Road Transport & Highways
MP	Master Plan
MRTS	Mass Rapid Transit System
NAFCC	National Adaptation Fund for Climate Change
NDC	Nationally Determined Contributions
NHAI	National Highways Authority of India
NHLML	National Highways Logistics Management Limited
NITI	National Institute for Transforming India
NTA	Notified Town Area
PBA	Program Based Approaches
PHPD	Passengers Per Hour Per Direction
PPP	Public Private Partnership
PPPP	Public Private People Partnership
SBM – U	Swachh Bharat Mission – Urban
SDG	Sustainable Development Goals
SFC	State Finance Commission
SPV	
SUGAY	Sikkim Urban Garib Awas Yojana
SWM	Solid Waste Management
TEFR	Techno-Economic Feasibility Report
TPS	Town Planning Scheme
UDD	Urban Development Department
ULBs	Urban Local Bodies
UT	Union Territory

Contents

BACKGROUND: VISION 2047.....	1
1. INTRODUCTION.....	2
1.1 URBANISATION IN SIKKIM.....	2
1.2 ROLE OF URBAN DEVELOPMENT DEPARTMENT.....	3
1.3 BAZAARS IN SIKKIM.....	4
2. VISION 2047:.....	7
2.1. Vision: “To achieve equitable urbanisation with promotion of well-connected adequate urban centres as loci of economic growth”	7
2.2. Objectives.....	7
3. WAY FORWARD	8
3.1. LEGAL FRAMEWORK	8
3.1.1. SIKKIM TENANCY ACT	8
3.1.2. SIKKIM AERIAL ROPEWAY ACT.....	8
3.1.3. TOWN & COUNTRY PLANNING ACT	9
3.1.4. APARTMENT OWNERSHIP ACT	10
3.2. URBAN GOVERNANCE.....	10
3.2.1. DIRECTORATE OF MUNICIPAL AFFAIRS.....	11
3.2.2. MUNICIPAL CADRE.....	11
3.2.3. TOWN PLANNING CADRE.....	12
3.2.4. DIRECTORATE OF TOWN PLANNING	12
3.3. URBAN PLANNING.....	12
3.3.1. STATE STRATEGIC URBAN PLAN.....	13
3.3.2. GIS BASED MASTER PLAN FOR GANGTOK.....	13
3.3.3. GREATER GANGTOK DEVELOPMENT AUTHORITY	13
3.3.4. NAMCHI-JORETHANG DEVELOPMENT AUTHORITY	14
3.3.5. LOCAL AREA PLANS (LAP).....	14
3.3.6. TOWN PLANNING SCHEMES (TPS)	15

VISION 2047: CONCEPT PAPER

3.3.7.	DEVELOPMENT OF GREEN AND BLUE NETWORK IN THE CITIES/TOWNS	15
3.4.	HOUSING	16
3.4.1.	SIKKIM URBAN GARIB AWAS YOJANA.....	16
3.4.2.	SIKKIM URBAN HOUSING & HABITAT POLICY.....	16
3.4.3.	SIKKIM RENT TO OWN HOUSING POLICY.....	17
3.5.	URBAN MOBILITY	17
3.5.1.	PROMOTE PEDESTRIAN NETWORK IN THE CITIES/ TOWNS	18
3.5.3.	AUTOMATED MULTILEVEL CAR PARKING	19
3.5.4.	MULTIMODAL INTEGRATION OF THE AIRPORT AT PAKYONG WITH THE GANGTOK AERIAL ROPEWAY.....	19
3.5.5.	CREATION OF LOGISTICS HUB AT RANGPO INTEGRATING THE UNDERCONSTRUCTION RAILWAYS TO SIKKIM	20
3.5.6.	ADOPTION OF ELECTRICAL VEHICLE POLICY	20
3.6.	WATER SUPPLY	21
3.6.1.	WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 19091 HOUSEHOLDS UNDER GANGTOK MUNICIPAL CORPORATION, EAST SIKKIM	22
3.6.2.	WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 1108 HOUSEHOLDS UNDER MANGAN NAGAR PANCHAYAT, NORTH SIKKIM	22
3.6.3.	WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 1263 HOUSEHOLDS UNDER SINGTAM NAGAR PANCHAYAT, EAST SIKKIM	22
3.6.4.	WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 2680 HOUSEHOLDS UNDER RANGPO NAGAR PANCHAYAT, EAST SIKKIM	22
3.6.5.	WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 1855 HOUSEHOLDS UNDER JORETHANG-NAYABAZAR NAGAR PANCHAYAT, SOUTH SIKKIM.....	23
3.6.6.	REJUVENATION OF TAMZEY AND SURROUNDING LAKES, EAST SIKKIM	23

VISION 2047: CONCEPT PAPER

3.6.7.	DEVELOPMENT OF PARKS AND GREEN SPACES	23
3.7.	SANITATION.....	23
3.7.1.	ACHIEVING ZERO WASTE PRINCIPLE.....	25
3.7.2.	ACHIEVING 100% PLASTIC FREE SOCIETY	25
3.7.3.	FULL ADOPTION OF CIRCULAR ECONOMY: REUSING, REPAIRING, REFURBISHING AND RECYCLIN.....	25
3.7.4.	ACHIEVING ZERO LANDFILL/DUMPSITE CONCEPTS.....	25
3.7.5.	ACHIEVING 7 STAR RATING FOR ALL THE ULBS.	25
3.7.6.	100% CONNECTIVITY OF SEWER LINES TO STPS/FSTPS.	26
3.7.7.	INTEGRATING BEST WASTE MANAGEMENT PRACTICES IN DAY TO DAY ACTIVITIES OF INDIVIDUAL.....	26
3.7.8.	BRINGING BEHAVIOURAL CHANGES TOWARDS WASTE MANAGEMENT AMONG EACH AND EVERY INDIVIDUAL.....	26
3.8.	DISASTER RISK REDUCTION.....	26
3.8.1.	HAZARD RISK VULNERABILITY ATLAS FOR ALL THE URBAN CENTRES	26
3.8.2.	PROMOTION OF MODERN CONSTRUCTION TECHNOLOGY AND MATERIALS FOR MITIGATION OF SEISMIC INDUCED DISASTERS	27
3.9.	TECHNOLOGY TRANSFER.....	27
3.9.1.	ADOPTION OF LATEST TECHNOLOGY FOR MANAGEMENT OF MUNICIPAL SOLID WASTE AND LEGACY WASTE.....	28
3.9.2.	ADOPTION OF MECHANIZED CLEANING AND DESLUDGING OF NATURAL DRAINS AND STORM WATER DRAINS.....	28
3.9.3.	ADOPTION OF MECHANIZED CLEANING FOR EFFECTIVE LIQUID WASTE MANAGEMENT.....	28
3.9.4.	USE OF DRONE FOR SURVELLENCE OF CONSTRUCTION ACITIVITY, DISASTER AREAS, NIGHT PATROLLING FOR LAW AND ORDER SYNCED WITH THE INRTEGRAED CENTRAL COMMAND CENTRE.....	29
3.10.	FINANCING MECHANISM.....	29

VISION 2047: CONCEPT PAPER

3.10.1. ALL CENTRALLY SPONSORED SCHEMES UNDER MINISTRY OF HOUSING AND URBAN AFFAIRS (MoHUA).....	30
3.10.2. SPECIAL ASSISTANCE FOR CAPITAL ASSISTANCE FROM MINISTRY OF FINANCE (MoF).....	30
3.10.3. VGF SCHEME FOR PPP PROJECTS, DEPARTMENT OF ECONOMIC AFFAIRS(DEA), MINISTRY OF FINANCE(MoF)	30
3.10.4. PARVATMALA SCHEME FOR AERIAL ROPEWAYS, MINISTRY OF ROAD, TRANSPORT AND HIGHWAYS (MoRTH)	30
3.10.5. SOVEREIGN LOANS THROUGH BILATERAL AND MULTILATERAL AGENCIES: ADB, JICA, AFD etc	31
3.10.5.1. NATIONAL ADAPTATION FUND FOR CLIMATE CHANGE AND GREEN CLIMATE FUND	31
3.10.5.2. GREEN CLIMATE FUND	31

BACKGROUND: VISION 2047

An exercise to envision India@2047 is being undertaken by the Government of India under the rubric of Azadi Ka Amrit Mahotsav to meet the following aspirations:

- Attaining new heights of prosperity of the country
- Making best facilities available both in the villages and the cities
- Eliminating unnecessary interference by the Government in the lives of citizens
- Building world's most modern infrastructure.



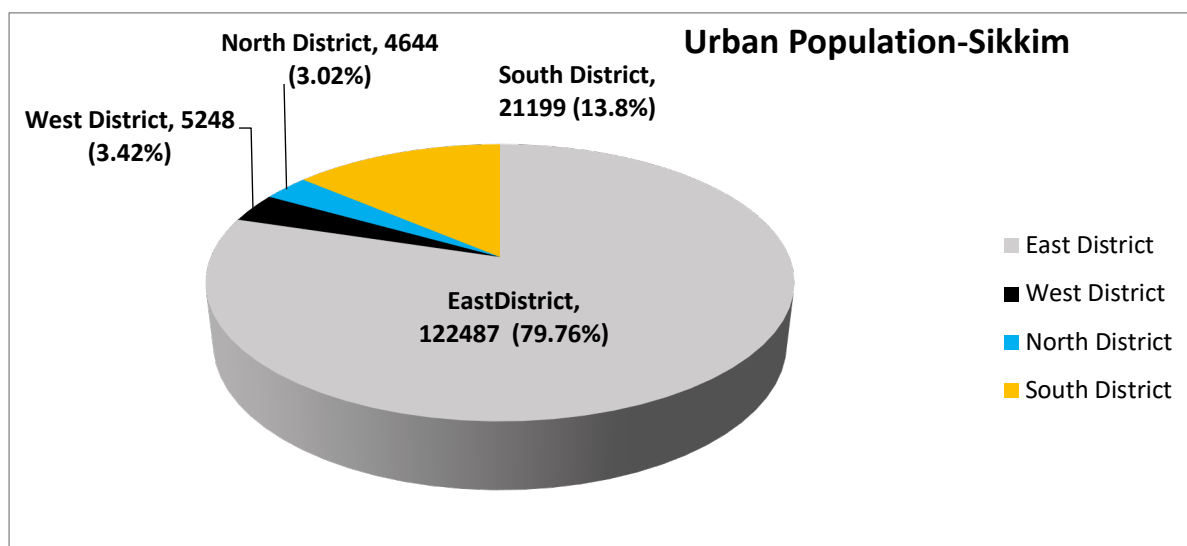
'Vision India@2047' document is slated for completion by June 15 and the blueprint on governance will likely roll out by August 15, the 75th anniversary of India's independence.

In January, the government said it had begun work on the vision for India at 100. Sectoral group of secretaries (SGoS) were handed out instructions to set realistic deadlines and milestones for the plan. Individuals from outside and within the government as well institutional experts have been invited to formulate the blueprint. The vision document will guide India on attaining prosperity; making best facilities available both in villages and cities; eliminating unnecessary interference by the government in the lives of citizens; and building modern infrastructure. Key areas identified are agriculture, commerce, infrastructure, industry, **urban landscape**, security & defense, technology and governance

1. INTRODUCTION

1.1 URBANISATION IN SIKKIM

Sikkim the 22nd state of India is barely 7096 sq.km in size. It comprises of four districts – East, West, North and South with an estimated total population of 6, 10,577 (Census 2011). The East district is the most populated among the four districts and also the most urbanised. Of the total urban population of Sikkim, East District has a share of 79.55%. South District has a share of 13.80% and West District has only 3.4%.



Source: Census 2011

Urbanization in Sikkim has been driven by the growth of administrative and commercial activity. The trend of urban population in Sikkim is concentrated mainly in East District especially in the capital city of Gangtok and its influence zone areas. The quality of life, the pace of development and availability of basic infrastructure and employment prospects has been the major cause for rapid rural urban migration.

As per Census 2011, the decadal growth has been pegged at 12.5% which is much below the national figures. However, the increase in urban population has been a whopping 156.52%; the factor of urban growth being attributed to the re-delineation of the municipal limits. The urban population as percentage of total population has increased from 11.07% in 2001 to 25.15% in 2011. The capital city Gangtok alone has a share of 65% of the total urban population of Sikkim thereby making it a primate city with factor of primacy as high as 8.

VISION 2047: CONCEPT PAPER

Table: Urbanisation trends in Sikkim

Year	Population						Urban Population to Total Population (%)	
	State	Urban Area	East	North	South	West	India	Sikkim
1951	1,37,725	2,744	2,744	-	-	-	-	1.90
1961	1,62,189	6,848	6,848	-	-	-	-	4.20
1971	2,09,903	19,668	17,019	331	1,222	1,096	19.91	9.37
1981	3,16,309	51,084	43,242	780	5,365	1,697	23.34	16.15
1991	4,06,457	37,006	31,872	803	2,569	1,762	25.73	9.10
2001	5,40,851	59,870	52,852	1,248	3,946	1,824	27.30	11.07
2011	6,10,577	1,53,578	1,22,487	4,644	21,199	5,248	31.16	25.15

Source: District Census Handbook 1971, 1981, 1991, Primary Census Abstract 2001, Census of India, Primary Census Abstract 2011 Figures at a Glance.

1.2 ROLE OF URBAN DEVELOPMENT DEPARTMENT

The Urban Development Department has the mandate of planning and guiding urban development in the State. It is the nodal agency for implementing all the central schemes from the Ministry of Housing and Urban Affairs. In the absence of a Directorate of Town & Country Planning, the Town Planning Cell caters to all physical planning matters. It also does the role of the Department of Municipal Affairs in the State.



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There are currently 7 ULBs in which the CSS under the MoHUA.

Table: Urban centres in Sikkim

	Name of the Urban Centre	Status	Population
1.	Mangan Nagar Panchayat	ULB	4644
2.	Gyalshing Nagar Panchayat	ULB	4013
3.	Nayabazaar Notified Town Area	NTA	1235
4.	Namchi Municipal Council	ULB	12190
5.	Jorethang Nagar Panchayat	ULB	9009
6.	Gangtok Municipal Corporation	ULB	100286
7.	Singtam Nagar Panchayat	ULB	5868
8.	Rangpo Nagar Panchayat	ULB	10450
9.	Rhenock Census Town	CT	5883

Source: Census 2011

1.3 BAZAARS IN SIKKIM

Apart from the urban centres identified under the parameters of the Census Operations of India, the Urban Development Department has its jurisdiction over settlements called *Bazaars*. These are centres that do not qualify to be defined as urban centres as per the Census operation definition but are more than a hamlet. They are classified into Class II, III and marketing centres as per the economic importance of the bazaar.

Bazaars notified as Urban Areas as per Government Notification No: GOS/UD&HD/6(345)2005/3918 dated 19/02/2017					
Bazaar	East District	North District	South District	West District	Total
Class I	01	--	--	--	01
Class II	06	01	04	04	15
Class III	09	04	08	13	34
Rural Marketing Centres	32	19	22	23	96
				TOTAL :	146

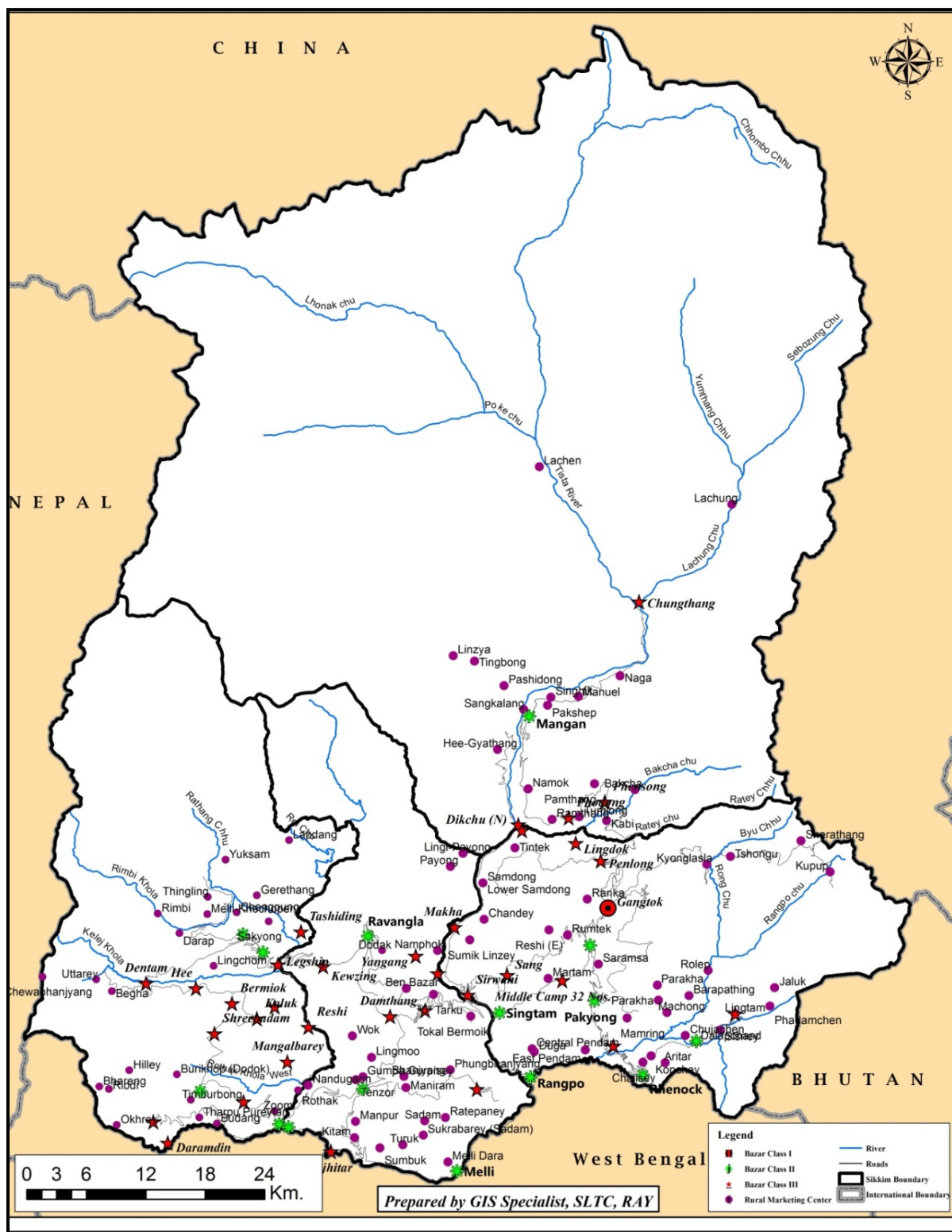
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It may be noted that before Sikkim became a part of the Indian Union, bazaar was the nomenclature adopted for urban areas in the erstwhile kingdom of Sikkim. The so-called *bazaars* were administered through the Bazaar Department directly under the Durbar when it was an independent kingdom. After the merger of the erstwhile kingdom of Sikkim with India the bazaar department was rechristened as Local Self Government and further renamed as the Urban Development & Housing Department in the early 1980's and now the Urban Development Department since 2019. Since the new functions mandated on the UDD was in addition to the functions of the then Bazaar department, the UDD notified a list of different category of bazaars for implementation of its functions. These bazaars would with reference to Census definition be both in the urban and rural areas.

The genesis of the present Urban Development Department is rooted in the then Bazaar Department which went a nomenclature change to adapt to the new scenario. Since then the UDD has been catering to the services of the urban areas listed as per the Census Operations of India as well as the settlements being administered through the Panchayati Raj Institution.

VISION 2047: CONCEPT PAPER

Map: Urban Centres & Bazaars under UDD in Sikkim



Source: UDD

2. VISION 2047:

2.1. Vision: “To achieve equitable urbanisation with promotion of well-connected adequate urban centres as loci of economic growth”

It can be easily inferred from the share of GDP that urbanisation is synonymous to wealth and that the urban centres are engines of economic growth. However, the lopsided urban growth in most of the Indian states due to various factors deprive equitable wealth distribution and hence needs to be addressed through strategic spatial and economic planning across the state.

The urban vision 2047 for Sikkim is to achieve a regional balance of urbanisation through well connected adequate urban centres spread through the state. The urban centres are to be adequate in people centric governance, operational legal and institutional framework, physical and social infrastructures. This would enable the urban centres to take a centre stage and act as loci of economic growth within its administrative boundaries and its influence zone.

2.2. Objectives

The ills of urbanisation as a matter of weak urban governance and lack of urban planning capacity is being exhibited across all sectors in every urban centre in the country. The objective is to dwell on the reflections of the diagnostics provided by well formulated reports and not take an ad-hoc approach by addressing the symptoms which would resurface later. The holistic approach of curative and preventive strategies in all urban sectors to achieve the objectives leading to the vision is a time-consuming long-term approach apt to bear its fruits by 2047. The Government of Sikkim will work in achieving the recommendations provided in

- i. **Praja’s Urban Governance Index 2020 (Sikkim ranked 20 out of 29 states)**
- ii. **Reforms in Urban Planning Capacity in India 2021 by NITI Aayog**

to leverage itself for fulfilling its urban vision by 2047.

3.WAY FORWARD

The strategies adopted by the Government of Sikkim to achieve the objectives will be focussed on the following sectors aligned with Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable” of the Sustainable Development Goals adopted by the United Nations in 2015.

3.1. LEGAL FRAMEWORK

Sl. No.	PARTICULARS	BASE YEAR	TARGET YEAR
1	SIKKIM TENANCY ACT	2021	2022-23
2	SIKKIM AERIAL ROPEWAY ACT	2021	2022-23
3	TOWN & COUNTRY PLANNING ACT	2022	2022-24
4	APARTMENT OWNERSHIP ACT	2023	2024-25

3.1.1. SIKKIM TENANCY ACT

The Sikkim Tenancy Act is based on the Model Tenancy Act 2021 prepared by the Ministry of Housing and Urban Affairs to establish Rent Authority to regulate renting of premises and to protect the interests and tenants and to provide speedy adjudication mechanism for resolution of disputes and matters connected therewith or incidental thereto.

The existing rent control laws/Acts in Sikkim, which is a pre-merger Act; is inadequate to protect the equitable rights of the house owners in the urban areas of Sikkim and are restricting the growth of rental housing and discouraging the owners from renting out their vacant houses. Further, as per the Census 2011 data it has been noticed that Sikkim has the second highest percentage of rented urban household in the country (i.e. 63.89%). This new tenancy bill would adequately protect the rights of the house owners and also somehow help us ascertain the rental population subdivided into migrant and local population.

3.1.2. SIKKIM AERIAL ROPEWAY ACT

Most of the hill towns and cities in India are punctuated by similar terrain thus making the absence of an efficient public transport system a common agenda to ponder upon. The Urban transport has been identified as the one of the most important component which shapes urban development and living. Public transport system development is one of the key emerging thrust

sectors in urban transport policy in Indian cities. The centrally sponsored schemes with its thrust on mass urban transport promoted BRTS & MRTS in all the major cities of India thereby bypassing a suitable model for the cities in hilly regions.

In the Union Budget for 2022-23, the Union Finance Minister launched the National Ropeways Development Programme – "Parvat Mala" to increase connectivity in hilly areas. The scheme will be implemented using a PPP (Public-Private Partnership), which will be a preferable ecologically sustainable alternative to conventional roads in difficult hilly areas. The goal is to improve commuter connectivity and convenience while also promoting tourism and will also include congested urban regions where conventional mass transit systems are not feasible.

Hence the formulation of a legal framework in the form of The Sikkim Aerial Ropeway Act, 2022 which aims to establish a regulatory framework for procurement, operations and maintenance of Aerial Ropeways in Sikkim, in order to ensure quality and safety of all passenger and non-passenger aerial ropeways has been initiated.

3.1.3. TOWN & COUNTRY PLANNING ACT

The existing legal framework, viz., The Sikkim Allotment of House Sites and Construction of Building (Regulation & Control) Act, 1985, under which the Sikkim Building Construction Regulations, 1991 and the Sikkim State Site Allotment Rules 2012 have been framed, addresses building construction regulations and not development control regulations which is for spatial planning and development.

The Sikkim Urban & Regional Planning and Development Act, 1998 was notified but never enforced. This may have been due to the native lands laws protected under Article 371(f) of the constitution as in the case of Schedule 6 lands in other North eastern States. Hence, the State has initiated on innovating the contents of the standard Town & Control Planning Acts which is prevalent in rest of the country to suit its size and existing land laws. The proposal for formulation of the Sikkim Town & Country Planning Act 2022 has already been initiated to promote a more conducive framework for regulating spatial development, in line with the recommendation of the report on "Reforms in Urban Planning Capacity in India" by NITI Aayog. The objective is to make provision for the promotion of development and regulation of growth of urban and rural areas in the State.

The State has proposed to replace the Sikkim Urban & Regional Planning & Development Act, 1998 by the Sikkim Town and Country Planning Act, 2022 by a committee formed in the UDD, Government of Sikkim, which is at its nascent stage at present.

3.1.4. APARTMENT OWNERSHIP ACT

The Real Estate (Regulation and Development) Act, 2016 is an Act of Parliament “to establish the Real Estate Regulatory Authority for regulation and promotion of the real estate sector and to ensure sale of plot, apartment or building, as the case may be, or sale of real estate project, in an efficient and transparent manner and to protect the interest of consumers in the real estate sector and to establish an adjudicating mechanism for speedy dispute redressal and also to establish the Appellate Tribunal to hear appeals from the decisions, directions or orders of the Real Estate Regulatory Authority and the adjudicating officer and for matters connected therewith or incidental thereto.

Consequent upon the shortage of lands in urban areas, the majority of the citizens of urban areas of the State cannot think in terms of owning houses on individual basis. Though there is a tendency to construct multi-storeyed flats, apartments and the like on ownership basis, intending persons cannot purchase flats, tenements, or apartments in multi-storied building as they will not have a marketable title thereto and cannot obtain any loan by mortgaging such flats, tenements, etc. It is, therefore, considered expedient that each apartment should for all purposes constitute a heritable and transferable immovable property, and that suitable legislation should provide for all matters connected therewith.

In view of the intent above, the legal framework has to be framed to address the registration of flats and thereby making marketable through the Apartment Ownership Act.

3.2. URBAN GOVERNANCE

In compliance to the mandatory reforms under JNNURM, The Sikkim Municipalities Act 2007 was enacted paving the formation of the urban local bodies in 2010. The Urban Development Department oversees most of the municipal functions as 5 ULBs designated as Nagar Panchayats have population less than 10,000, 1 ULB designated as Municipal Council has population less than 15,000/- and only the Gangtok Municipal Corporation is having 1 lakh plus population as per Census 2011. The creation of

VISION 2047: CONCEPT PAPER

Directorate for ULBs will go a long way in strengthening them and State is working on this line.

Sl.No.	PARTICULARS	BASE YEAR	TARGET YEAR
1	DIRECTORATE OF MUNICIPAL AFFAIRS	2022	2023-24
2	MUNICIPAL CADRE	2022	2023-24
3	TOWN PLANNING CADRE	2022	2023-25
4	DIRECTORATE OF TOWN PLANNING	2025	2025-27

3.2.1. DIRECTORATE OF MUNICIPAL AFFAIRS

In conformity with the provisions of the Constitution of India as amended by the 74th Amendment Act which mandates the setting up and devolution of powers to Urban Local Bodies [ULBs], the Sikkim Municipalities Act, 2007 (Act no. 5 of 2007) was notified as an Act to provide Municipal Governance in Sikkim. There are presently seven Municipalities that have been constituted under section 12 of the said Act. Under each of these Municipality there are number of wards that are represented by elected representatives who are elected after the conduct of regular general elections in every five years. The first general election was held in the year 2010 and subsequently, on 2015 and 2021.

Further, as per the 5th SFC along with the revised guidelines of the Finance Ministry for Centrally Sponsored Schemes, a separate Directorate for Municipalities has to be created. The formation of the Directorate has been felt necessary to manage administrative affairs of all the Municipalities which will serve as a one-point contact and repository for proper coordination, guidance and generating timely report. Considering the aforementioned justifications, the Department seeks to re-engineer urban planning & governance in the state by creation of Directorate for Municipal Affairs.

3.2.2. MUNICIPAL CADRE

The Fifth State Finance Commission of Sikkim [5th SFC] had been constituted to review the trends in the financial situation for the Award Period of 2020-2025. The Commission started its work at a time when Fourteenth Finance Commission Report introduced many financial measures, which have implications on finances and functions of the States and the Local Self Governments. As mandated by the recommendations of the 5th SFC, the Commission recommends the creation of Panchayats and Municipal Cadres and Directorate of ULBs.

3.2.3. TOWN PLANNING CADRE

The NITI Aayog in its report on “Reforms in Urban Planning Capacity in India” released on September 2021 has recommended in ensuring qualified urban planners in service by undertake requisite amendments in recruitment rules to ensure that essential qualifications at entry-level position of Town Planners is updated. This has also been found necessary in wake of implementation of centrally sponsored schemes under Ministry of Housing & Urban Affairs and legal framework formulated by the State government to guide the urban development. The State has already initiated for creation of a Town Planning Cadre in line of the above.

3.2.4. DIRECTORATE OF TOWN PLANNING

The State aims to establish Town and Country Planning Cell/ Directorate of Town Planning in tangent with the report on “Reforms in Urban Planning Capacity in India” by NITI Aayog to strengthen the Urban Planning Capacity in India for effective urban governance. The Government of Sikkim does not have a separate Town & Country Planning Department or a Directorate of Town Planning. The Directorate of Town Planning will also act as the focal point for implementation of centrally sponsored schemes under Ministry of Housing & Urban Affairs.

3.3. URBAN PLANNING

Sl.No.	PARTICULARS	BASE YEAR	TARGET YEAR
1	STATE STRATEGIC URBAN PLAN	2008	2041
2	GIS BASED MASTER PLAN FOR GANGTOK	2018	2022
3	GREATER GANGTOK DEVELOPMENT AUTHORITY	2024	2026
4	GREATER NAMCHI DEVELOPMENT AUTHORITY	2025	2027
5	LOCAL AREA PLANS	2022	2041
6	TOWN PLANNING SCHEMES	2024	2041
7	DEVELOPMENT OF GREEN AND BLUE NETWORK IN THE CITIES/TOWNS	2023	2033

3.3.1. STATE STRATEGIC URBAN PLAN

The State Strategic Urban Plan was prepared to examine the existing condition of Sikkim in order to identify the driving forces and changes which will constitute as key issues and trends to explore. The Plan proposes to adopt “multi-nuclei structure” for the State by working out population distribution, urban land requirements for Township Developments, transportation connection and facilities provisions and distribution across the State. The planning proposals give a clear guide on development strategies in the short-term, medium-term and long-term for the State of Sikkim. The various proposed planning parameters and infrastructure estimates will be used as key planning basis for next stage of planning task on formulation of Development Control Plans for 4 major urban centres in Sikkim.

The eventual Long Term State Strategic Plan by Year 2040 has taken into consideration the projected population size and spread, anticipated township scale of the 16 centers and their roles according to the proposed population density for individual urban centers, inter-state and intra-state major transportation linkages, in principles of the prescribed standards but with some moderations to the norms in order to ensure applicability into the context of Sikkim. The State Strategic Plan is to ensure a balanced development of urban centers across the State and to enable better transportation linkages between the key centers of Sikkim in terms of shorter commuting time and direct route of travel.

3.3.2. GIS BASED MASTER PLAN FOR GANGTOK

The Government of Sikkim has undertaken GIS- based Master Plan formulation for Gangtok under the centrally funded reform for 500 AMRUT cities by Ministry of Housing and Urban Affairs, GoI. The Master Plan (MP) describes the broad vision for the City’s future. It provides the core philosophy that directs all development and conservation activities in the city. It guides where and in what form development will occur in the community and frames the capital improvement projects. The Master Plan is prepared to control/regulate the appropriateness of both public and private development proposals. The Master Plan Area of Gangtok comprises of Gangtok Municipal Corporation and 30 revenue villages spread over an area 150 sq. km.

3.3.3. GREATER GANGTOK DEVELOPMENT AUTHORITY

The Sikkim Town and Country Planning Act, 2022, which aims to promote a more conducive framework for regulating spatial development, will enable the

creation of Development Authority. It can be clearly seen from the development in and around major towns/cities that the natural city spatially develops outside the administrative boundary of the municipal or notified areas. The pressure for development is thus spilled over to the rural hinterland which eventually gallops to an undesired built form to be embraced by the administrative boundary in the later years. As, such the capital city of Gangtok has already leveraged uncontrolled development in its influence zone and is felt that a creation of Greater Gangtok Development Authority to plan, regulate and implement the Master Plan beyond the municipal limits is the need of the hour.

3.3.4. NAMCHI-JORETHANG DEVELOPMENT AUTHORITY

Namchi is the second largest urban centre after the capital Gangtok, and the only Municipal Council with a population of 12190 as per the census 2011. It was the first city in the state to be selected for development under the Smart City Mission. Namchi being the administrative, commercial, tourist, educational and health centre of the entire South-West region, it makes the floating population considerably high.

The multiple nuclei approach for long term urban development as envisaged in the State Urban Strategic Plan projects Namchi as the hub of urban development strategically promoted in the South-West region of the state to bring about equity in spatial development and thereby wealth. The amalgamation of Jorethang, another important urban centre in the Namchi District with the hinterlands between the two urban centres to form a contiguous planning area, the creation of Namchi-Jorethang Development Authority will pave a way for planned urbanisation in the sub-region.

3.3.5. LOCAL AREA PLANS (LAP)

A Local Area Plan is a statutory planning mechanism that is devised to improve and enhance the existing developed areas. It is prepared for improving, retrofitting and/or solving issues in these currently developed areas. They are intended to provide more detailed planning proposals and policies for the areas which are anticipated to experience substantial redevelopment and transformation.

The LAP mechanism allows the cities and urban authorities to re-plan, revive and regenerate the existing developed inner city areas. The LAP mechanism is a micro-level planning tool used to implement the larger vision embedded in the master plan on the specific areas. It involves elements of plot

reconstitution, Master Planning, designing of urban realm and regulating the private realm through form based regulations. Additionally, the LAP process involves consultation with multiple stakeholders and plot owners and therefore requires to be conceptualized to incentivize and promote redevelopment for ease of its implementation. The provision to make LAP statutory have to be provided in the proposed Town & Country Planning Act.

The capital city of Gangtok with its high density organic development in requires provisions for such interventions for rejuvenation of its overloaded built form.

3.3.6. TOWN PLANNING SCHEMES (TPS)

Town Planning Scheme (T P Scheme) mechanism has been practiced in Gujarat since more than a century now. This land pooling and land reconstitution based mechanism is much appreciated throughout the country and is referred to as a greatly successful alternative to the other models of development which require forceful land acquisition. T P Scheme mechanism is a tool to prepare and implement a detailed plan for a smaller area under the development authority in such a way that it remains consistent with the provisions of the overall development plan prepared for the urban area. It resorts to undertaking a strategy for land pooling and land readjustment for different areas falling within the T P Scheme area.

The TP scheme is deemed as the right approach for development from part to whole especially in areas where special land laws prevail. The proposed Town & Country Planning Act will have statutory proviso for implementation of the TP scheme for green field development.

3.3.7. DEVELOPMENT OF GREEN AND BLUE NETWORK IN THE CITIES/TOWNS

Green Planning' is the necessary tool to achieve the goals of sustainable development and reduce global carbon emissions. It aims to replace conventional planning methods with alternative planning approaches to safeguard the environment – an approach to manage the resource consumption and emission production patterns. Objective approach and contextualization is the key to successful green planning for any urban project in biodiversity, green corridors, non-motorized transportation, water bodies, and open spaces etc. The green planning approach will eventually contribute to larger environment and climate change at large. Gangtok also is at a rapid

urbanization phase with a lopsided development and is in a dire need of Green network plan to activate the green urban and accessible spaces.

3.4. HOUSING

Sl.No.	PARTICULARS	BASE YEAR	TARGET YEAR
1	SIKKIM URBAN GARIB AWAS YOJANA	2021	2041
2	SIKKIM URBAN HOUSING & HABITAT POLICY	2023	2024
3	SIKKIM RENT TO OWN HOUSING POLICY	2024	2026

3.4.1. SIKKIM URBAN GARIB AWAS YOJANA

The Sikkim Urban Garib Awaz Yojana (SUGAY) is the first fully State sponsored urban housing scheme which is designed to be aligned with the following SDG:

- Goal 3: Good Health and Well Being by providing well designed Individual Houses and Group Housing,
- Goal 5: Gender Equality by allotment of Housing Flats in the name of the Female head of the Household, and
- Goal 11: Sustainable Cities and Communities by providing affordable and safe housing to the Urban poor.

The scheme seeks:

- To supplement the Sikkim Garib Awaz Yojana being implemented in the rural areas for collectively achieving the target of kutcha house free State.
- To enable the urban poor having ownership of land in the urban areas; access to adequate housing by means of construction of individual houses.
- To ensure inclusion of the Economically Weaker Section and Low-Income Group families for access to adequate social housing.
- To ensure a dignified shelter for the urban houseless households.

It will be implemented in all the 7 Urban Local Bodies of the State and a total of 502 individual houses measuring 678.50 sq. ft and 270 units of Social Housing Flats measuring 688 sq. ft. shall be constructed in the first phase.

3.4.2. SIKKIM URBAN HOUSING & HABITAT POLICY

As per Census 2011, the decadal growth has been pegged at 12.5% which is much below the national figures. However, the increase in urban population

has been a whopping 156.52%; the factor of urban growth being attributed to the re-delineation of the municipal limits. The urban population as percentage of total population has increased from 11.07% in 2001 to 25.15% in 2011.

Hence, Sikkim Urban Housing & Habitat Policy is needed to provide the direction and basis for the planning and development of the housing sector by all relevant State level and local level departments and agencies as well as the private sector. The policy shall further aim to promote Public Private People Partnership (PPPP) financial mode for addressing the shortage of adequate and affordable housing in the State.

3.4.3. SIKKIM RENT TO OWN HOUSING POLICY

Due to the growing population in urban centres of the State, availability of land for providing affordable housing to the urban population has become a major issue. In order to cater to the problem of lack of feasible land pockets for construction, mainly due to the fragile terrain and unrealistic price of the available land, the State proposes to draft a policy to provide affordable housing to the masses by adopting 'payment through long-term rent' basis, wherein the tenant shall be able to own the flats/ housing once the cumulative construction and land cost is met.

3.5. URBAN MOBILITY

Sl.No.	PARTICULARS	BASE YEAR	TARGET YEAR
1	PROMOTE PEDESTRIAN NETWORK IN THE CITIES/TOWNS	2021	2041
2	ADOPTION OF AERIAL ROPEWAY AS THE SPINAL PUBLIC TRANSPORT	2022	2025
3	AUTOMATED MULTILEVEL CAR PARKING	2025	2047
4	MULTIMODAL INTEGRATION OF THE AIRPORT AT PAKYONG WITH THE GANGTOK AERIAL ROPEWAY	2025	2030
5	CREATION OF LOGISTICS HUB AT RANGPO INTEGRATING THE UNDERCONSTRUCTION RAILWAYS TO SIKKIM	2025	2030
6	ADOPTION OF ELECTRICAL VEHICLE POLICY	2022	2030

3.5.1. PROMOTE PEDESTRIAN NETWORK IN THE CITIES/ TOWNS

In context to Gangtok, a recent study undertaken by the State Government “TEFR...” has shown that 44% of the home-based work trips and 53% of home-based education trips are made by walking. As per the Transport Study undertaken by RITES in 1997, proposal for pedestrian foot over bridges were suggested and subsequently built to promote pedestrianisation and ease traffic congestion.

However, these studies have been conducted focusing on proposal for public-transportation. Hence, the State aims to carry out a pedestrian-specific study for the all-major urban centres taking into consideration for enhancing the cultural and heritage sites, under the “Urban Transport Capacity Building Scheme”, with the central financial assistance of MoHUA. The State aims to focus on prioritizing active mobility via. Non-Motorized Transport: Pedestrianisation along the urban roads in all the Urban Local Bodies keeping in mind the universal accessibility for visually challenged.

3.5.2. ADOPTION OF AERIAL ROPEWAY AS THE SPINAL PUBLIC TRANSPORT

The State seeks to achieve SDG 11 - Target 2 - provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons, by providing:

- i. a public transport that is reliable, affordable, accessible, safe and sustainable;
- ii. a public transport that would be easy to insert in the densely built urban form and unique geography of Gangtok.
- iii. a non-road based public transport that would decongest the existing road network.
- iv. non-fossil fuel based sustainable public transport and contribute to the national commitment for reduction in greenhouse gases

The proposal for development of Cable car network in Gangtok aims to cover 75% of the settlements due to the route rationalisation; network planning adopted and reduction of emission of Green House Gases by 35% and Savings in non-renewable fossil fuel by 10-15%.

The calculation of savings of fuel and reduction of emission of greenhouse gases has been made using the "Appraisal of Road Transport Pollutant Emissions". It is estimated that 5254 ltrs of petrol and 1020 litres of diesel

will be saved every day in 2021 increasing this figure to saving of 21222 litres of Petrol and 4419 litres of Diesel every day in 2051 in the project scenario. The same model also estimates significant reduction of Green House Gases (viz: CO, CO₂, NO_x, VOC, articles and SO₂) from saving the fossil fuels with lesser number of vehicles on the road and lesser congestion.

The adoption of cable propelled technology for public transport will be the first in India. The emergence of metro rail transit, BRTS, mono rail transit in the million plus cities have left the small and medium cities to think of an alternative mode of public transport. These small and medium cities with PPHPD of 2000-10000 have a task cut out to opt for innovation and new technology options to suit their needs. Moreover, in the case of cities located in the 10 hilly states of India, the scope of land based alternative public transport appears to be limited due to terrain constraints.

The Government of India has announced a National Ropeway Programme “Parvatmala” wherein the State aims to include this cable car project for its implementation.

3.5.3. AUTOMATED MULTILEVEL CAR PARKING

Parking of vehicles has become a major problem and may assume a critical dimension unless appropriate measures are identified and implemented. In the absence of public transport system and heavy tilt of modal split in favour of taxis and cars, the need for innovative parking has become the need in the State. Due to the terrain condition and organic development of the cities in the State, parking at grade is very difficult and presently only multilevel parking facilities at strategic locations have been constructed.

On the basis of demand and supply parking plan needs to be prepared for on and off street parking. One of the solutions to encounter the parking problem is automated multilevel car parking system as it provides good number of parking slots within minimum space leading to optimal utilization of space and cost.

3.5.4. MULTIMODAL INTEGRATION OF THE AIRPORT AT PAKYONG WITH THE GANGTOK AERIAL ROPEWAY

Spread over 201 acres (81 ha), the airport is located at Pakyong town about 31 km south of Gangtok. At 4646 ft, Pakyong Airport is one of the five highest airports in India. It is also the first greenfield airport constructed in the North-eastern Region of India, the 100th operational airport in India, and the only airport in the state of Sikkim.

The creation of Pakyong District in 2022 with major industrial corridors and important border town of Rangpo within its territorial jurisdiction, Pakyong is projected to be developed as a major industrial hub. The integration of the airport with the envisaged Gangtok Aerial Ropeway at Ranipool will serve as an effective connectivity of the District HQ to the State HQ. Ranipool, the entry to the Gangtok Municipal Corporation from its southern boundary is also proposed to be the centre of ropeway connectivity for future expansion to Pakyong, Singtam and Rumtek.

3.5.5. CREATION OF LOGISTICS HUB AT RANGPO INTEGRATING THE UNDERCONSTRUCTION RAILWAYS TO SIKKIM

Sevoke - Rangpo Railway Line is the line connecting the Indian states of West Bengal and Sikkim. It branches out from New Jalpaiguri – Alipurduar – Samuktala Road line at Sivok railway station, Sevoke Town near Siliguri in Darjeeling district and runs through villages and towns of Kalimpong district of West Bengal and terminates in Rangpo Railway Station in Rangpo, Pakyong District of Sikkim. In the second phase of construction, this line will be extended till Gangtok, the capital of Sikkim. This railway line lies under Northeast Frontier Railway zone Alipurduar railway division.

In anticipation of the first railway station in the state, a logistics hub/park is required to be planned and developed at Rangpo, the border town of Sikkim. The logistics hub will be an area allocated to logistics activities relating to the transportation, sorting, dispatch, and distribution of goods within the state from the rail head.

3.5.6. ADOPTION OF ELECTRICAL VEHICLE POLICY

Through the electric vehicle policies, the State aims to curb the transportation related Green House Gas emissions and following the National Electric Mobility Mission Plan to achieve 30% e-mobility by 2030.

- Objectives will be to establish the State as the Electric Vehicle Hub by providing substantial package of incentives to promote and develop zero emission vehicles. To facilitate adoption of atleast 10% EVs in the State by 2025.
- To facilitate eco-tourism through promotion of green taxi fleets.
- To create an enabling environment to provide easy availability of charging infrastructure in the State.
- Adoption of atleast 50% EVs in the State Transport Department in the next 10 years.
- Set up Recycling ecosystems for Batteries.

VISION 2047: CONCEPT PAPER

- To mandate compulsory adoption of EVs in the Government and its boards, Government undertakings, Development Authorities, Municipalities in a phased manner.

3.6. WATER SUPPLY

AMRUT 2.0 has been launched in order to meet Sustainable Development Goal 6 (SDG 6), and to extend ease of living in water sector from 500 to all statutory towns. The scheme will also ensure 100% coverage of sewerage/ septage management in 500 AMRUT cities. The key objectives of the scheme are to ensure functional tap connections to all households, undertaking water source conservation/ augmentation, rejuvenation of water bodies and wells, recycle/re-use of treated used water and rainwater harvesting,

Sl.No.	PARTICULARS	BASE YEAR	TARGET YEAR
1	WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 19091 HOUSEHOLDS UNDER GANGTOK MUNICIPAL CORPORATION, EAST SIKKIM	2022	2026
2	WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 1108 HOUSEHOLDS UNDER MANGAN NAGAR PANCHAYAT, NORTH SIKKIM	2022	2026
3	WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 1263 HOUSEHOLDS UNDER SINGTAM NAGAR PANCHAYAT, EAST SIKKIM	2022	2026
4	WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 2680 HOUSEHOLDS UNDER RANGPO NAGAR PANCHAYAT, EAST SIKKIM	2022	2026
5	WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 1855 HOUSEHOLDS UNDER JORETHANG-NAYABAZAR NAGAR PANCHAYAT, SOUTH SIKKIM	2022	2026
6	REJUVENATION OF TAMZEY AND SURROUNDING LAKES, EAST SIKKIM	2022	2026
7	DEVELOPMENT OF PARKS AND GREEN SPACES	2022	2026

3.6.1. WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 19091 HOUSEHOLDS UNDER GANGTOK MUNICIPAL CORPORATION, EAST SIKKIM

Under Amrut 2.0 Mission, State Water Action Plan (SWAP) and City Water Action Plan (CWAP) has been prepared for supply scheme including connectivity for gap filling of 19091 households under Gangtok Municipal Corporation where augmentation of pipes and construction of water tanks is to be taken up to provide water supply at tap at household levels.

3.6.2. WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 1108 HOUSEHOLDS UNDER MANGAN NAGAR PANCHAYAT, NORTH SIKKIM

Under Amrut 2.0 Mission, State Water Action Plan (SWAP) and City Water Action Plan (CWAP) has been prepared for supply scheme including connectivity for gap filling of 1108 households under Mangan Nagar Panchayat where augmentation of pipes and construction of water tanks is to be taken up to provide water supply at tap at household levels.

3.6.3. WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 1263 HOUSEHOLDS UNDER SINGTAM NAGAR PANCHAYAT, EAST SIKKIM

Under Amrut 2.0 Mission, State Water Action Plan (SWAP) and City Water Action Plan (CWAP) has been prepared for supply scheme including connectivity for gap filling of 1263 households under Singtam Nagar Panchayat where augmentation of pipes and construction of water tanks is to be taken up to provide water supply at tap at household levels.

3.6.4. WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 2680 HOUSEHOLDS UNDER RANGPO NAGAR PANCHAYAT, EAST SIKKIM

Under Amrut 2.0 Mission, State Water Action Plan (SWAP) and City Water Action Plan (CWAP) has been prepared for supply scheme including connectivity for gap filling of 2680 households under Rangpo Nagar Panchayat where augmentation of pipes and construction of water tanks is to be taken up to provide water supply at tap at household levels.

3.6.5. WATER SUPPLY SCHEME INCLUDING LAST MILE TAP WATER CONNECTIVITY TO 1855 HOUSEHOLDS UNDER JORETHANG-NAYABAZAR NAGAR PANCHAYAT, SOUTH SIKKIM

Under Amrut 2.0 Mission, State Water Action Plan (SWAP) and City Water Action Plan (CWAP) has been prepared for supply scheme including connectivity for gap filling of 1855 households under Jorethang Nagar Panchayat where augmentation of pipes and construction of water tanks is to be taken up to provide water supply at tap at household levels.

3.6.6. REJUVENATION OF TAMZEY AND SURROUNDING LAKES, EAST SIKKIM

This wetland complex is situated near Chola pass at Tamzey valley at an altitude of 4200-4600 meters having an area of 35 hectares. During past 40 years all matured fir trees have been removed from this area to meet the defence purposes during Chinese aggression. The area is subjected to threats like poor regeneration, heavy population, shrinkage in area, grazing. etc. These threats also cause problem of contamination of water supply to Gangtok town through Ratey chu river.

Hence, Under Amrut 2.0 Mission, State Water Action Plan (SWAP) and City Water Action Plan (CWAP) Rejuvenation of Tamzey lake is proposed.

3.6.7. DEVELOPMENT OF PARKS AND GREEN SPACES

Urban green spaces, such as parks, playgrounds, and residential greenery, can promote mental and physical health, and reduce morbidity and mortality in urban residents by providing psychological relaxation and stress alleviation, stimulating social cohesion, supporting physical activity, and reducing exposure to air.

Hence, Under Amrut 2.0 Mission, Development of Parks and Green Spaces is proposed.

3.7. SANITATION

The Swachh Bharat Mission-Urban (SBM-U) was launched on 2nd October, 2014. The mission emanates from the vision of the Government articulated in the address of the President of India in his address to the joint session of Parliament on 9th June, 2014. The SBM-U is being implemented by the Ministry of Housing & Urban Affairs, Government of India, for the urban areas

VISION 2047: CONCEPT PAPER

in the country. SBM-U is the first mission to have a Government of India programme dedicated exclusively for sanitation. In Sikkim, the SBM-U is being implemented by the Urban Development Department.

The second phase of the mission 2.0 aims to sustain the open defecation free status and improve the management of solid and liquid waste, while also working to improve the lives of sanitation workers.

The various components under the Mission are as follows: -

- (a) Toilet construction
- (b) Solid Waste Management (SWM)
- (c) Waste Water Management
- (d) Information, Education & Communication and Public Awareness (IEC&PA)
- (e) Capacity Building, Administrative& Office Expenses (A&OE)

Sl.No.	PARTICULARS	BASE YEAR	TARGET YEAR
1	ACHIEVING ZERO WASTE PRINCIPLE	2021	2041
2	ACHIEVING 100% PLASTIC FREE SOCIETY	2023	2024
3	FULL ADOPTION OF CIRCULAR ECONOMY: REUSING, REPAIRING, REFURBISHING AND RECYCLIN	2025	2047
4	ACHIEVING ZERO LANDFILL/DUMPSITE CONCEPTS.	2025	2030
5	ACHIEVING 7 STAR RATING FOR ALL THE ULBS.	2030	2040
6	100% CONNECTIVITY OF SEWER LINES TO STPS/FSTPS.	2030	2040
7	INTEGRATING BEST WASTE MANAGEMENT PRACTICES IN DAY TO DAY ACTIVITIES OF INDIVIDUAL.	2021	2041
8	BRINGING BEHAVIOURAL CHANGES TOWARDS WASTE MANAGEMENT AMONG EACH AND EVERY INDIVIDUAL.	2021	2041

3.7.1. ACHIEVING ZERO WASTE PRINCIPLE

“Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them”.

3.7.2. ACHIEVING 100% PLASTIC FREE SOCIETY

The term plastic-free or free from plastics applies to an item and its packaging, meaning the overall or cumulative product that is being sold to the end consumer. Hence, both content and sales packaging have to be free of plastics.

3.7.3. FULL ADOPTION OF CIRCULAR ECONOMY: REUSING, REPAIRING, REFURBISHING AND RECYCLIN

A circular economy (also referred to as circularity and CE) is "a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible

3.7.4. ACHIEVING ZERO LANDFILL/DUMPSITE CONCEPTS.

Zero Waste to Landfill is a philosophy of reducing the amount of waste that ends up in landfill. Although 'Zero' is used, not all waste types can be otherwise processed and may end up in landfill.

3.7.5. ACHIEVING 7 STAR RATING FOR ALL THE ULBS.

Seeing the impact Star Rating certification has made to improve on-ground waste management scenario of the cities to become ‘Garbage Free Cities’, release of Government of India funds has been made conditional, subject to a ULB achieving at least 1-star certification. Hence, there is a need to ensure that every ULB participates in and get itself GFC certified, to avail Central funds and to achieve the intended objectives under SBM-U 2.0. To do this, it was felt necessary to revamp the existing GFC protocol and make the assessment process simpler, while retaining its robustness, so that every ULB is motivated to apply for the GFC certification.

3.7.6. 100% CONNECTIVITY OF SEWER LINES TO STPS/FSTPS.

To meet the long pending demand and requirement of the State, the vision is to provide 100% sewer connectivity to all the households.

3.7.7. INTEGRATING BEST WASTE MANAGEMENT PRACTICES IN DAY TO DAY ACTIVITIES OF INDIVIDUAL.

To adopt the best practices for Solid Waste Management, a guide for Decision-Makers in because we face the most substantial solid waste management challenges. Given our waste generation projections, these best practices will only become more acute in the future and decision-makers have the opportunity to take important and effective action

3.7.8. BRINGING BEHAVIOURAL CHANGES TOWARDS WASTE MANAGEMENT AMONG EACH AND EVERY INDIVIDUAL.

Education and awareness to encourage proper recycling is one of the most effective things. Using persuasive tactics to change attitudes, strengthen values, improve commitment, and change perception of social norms. Recycling is a private action, when you make public people who are participating, public recognition.

3.8. DISASTER RISK REDUCTION

Sl.No.	PARTICULARS	BASE YEAR	TARGET YEAR
1	HAZARD RISK VULNERABILITY ATLAS FOR ALL THE URBAN CENTRES	2023	2033
2	PROMOTION OF MODERN MATERIALS FOR MITIGATION OF SEISMIC INDUCED DISASTERS	2023	2024

3.8.1. HAZARD RISK VULNERABILITY ATLAS FOR ALL THE URBAN CENTRES

The third edition of Vulnerability Atlas of India, bought out by BMTPC under the Ministry of Housing & Urban Affairs on 2nd March, 2019, is collation of the existing hazard scenario for the entire country and presents the digitized State/ UT – wise Hazard Map with respect to Earthquakes, Winds & Floods for district – wise identification of vulnerable areas. It also presents the district

VISION 2047: CONCEPT PAPER

– wise Housing Vulnerability Risk Table based on wall types and roof types as per 2011 Census Housing data. The Atlas is a useful tool not only for public but also for urban managers, State & National Authorities dealing with disaster mitigation and management.

In this line the State plans on preparation of the Vulnerability Atlas for all the Urban Centres as its a useful tool for policy planning on natural disaster prevention and preparedness, especially for housing and related infrastructures. This shall guide for evolving micro level action plan for reducing the impact of natural disaster.

3.8.2. PROMOTION OF MODERN CONSTRUCTION TECHNOLOGY AND MATERIALS FOR MITIGATION OF SEISMIC INDUCED DISASTERS

The stress on limited urban land often results in construction of high-rise structures for delivery of public infrastructure. Introduction of modern construction technology and materials for mitigation of seismic induced disasters will pave way for optimum utilization of limited urban land.

3.9. TECHNOLOGY TRANSFER

Sl.No.	PARTICULARS	BASE YEAR	TARGET YEAR
1	ADOPTION OF LATEST TECHNOLOGY FOR MANAGEMENT OF MUNICIPAL SOLID WASTE AND LEGACY WASTE	2023	2043
2	ADOPTION OF MECHANIZED CLEANING AND DESLUDGING OF NATURAL DRAINS AND STORM WATER DRAINS	2024	2044
3	ADOPTION OF MECHANIZED CLEANING FOR EFFECTIVE LIQUID WASTE MANAGEMENT	2025	2045
4	USE OF DRONE FOR SURVELLENCE OF CONSTRUCTION ACITIVITY, DISASTER AREAS, NIGHT PATROLLING FOR LAW AND ORDER SYNCED WITH THE INRTEGRATED CENTRAL COMMAND CENTRE.	2022	2042

3.9.1. ADOPTION OF LATEST TECHNOLOGY FOR MANAGEMENT OF MUNICIPAL SOLID WASTE AND LEGACY WASTE

Management of municipal solid waste will become the next big disruption in the urban landscape. Technology intervention for both curative and preventative measures to mitigate the disruption will be the need of the hour as landfills become more difficult to accommodate because of paucity of suitable land and also the negative externalities on the surrounding habitation.

3.9.2. ADOPTION OF MECHANIZED CLEANING AND DESLUDGING OF NATURAL DRAINS AND STORM WATER DRAINS

The conventional cleaning and desludging of drains prior to every monsoon to avert blockages resulting in disasters have turned ineffective in solving the problem. Furthermore, the dense built up in the old core of the urban centres make the conventional cleaning of drains inaccessible thereby promoting filth and squalor, a perfect recipe for epidemics disrupting healthy living. The challenging terrain in which the storm waters flow and are often an outlet of all the settlement drainage require mechanized cleaning and desludging and can also be very useful as critical response facility during and after the heavy monsoon downpours.

3.9.3. ADOPTION OF MECHANIZED CLEANING FOR EFFECTIVE LIQUID WASTE MANAGEMENT

Gangtok is the only city with provision for liquid waste management and treatment for black water at present even though projects of similar nature are on the pipeline for other major urban centers. However, due to the terrain where the layout design depends on gravitational flow, as many as 35-40% of the households in Gangtok are not serviced by the sewerage network. The construction of septic tanks for the rest of the houses in Gangtok and predominantly for the entire households for the other urban centers is the order of the day. Not all of these static facilities are accessed by conventional cesspool vehicle for cleaning and maintenance. There will come a time where most of these static facilities will require cleaning and maintenance for which high-tech mechanized cleaning will be the only option for effective management of these installations.

3.9.4. USE OF DRONE FOR SURVELLENCE OF CONSTRUCTION ACITIVITY, DISASTER AREAS, NIGHT PATROLLING FOR LAW AND ORDER SYNCED WITH THE INRTEGRATED CENTRAL COMMAND CENTRE.

The idea of surveillance through the Integrated Command and Control Centers have already been kick started by the Smart City Project in the state with operations in Namchi and Gangtok. The surveillance is currently through static CCTV cameras installed at various locations and use of smart poles. This does not cover the city in entirety due to the line of sight unavailable in this mountain terrain.

With the country already gaining strides in indigenous drone technology and requirement of drone pilots as an employment option, the use of surveillance drone for monitoring constructing activity, raising alarm during disasters, night patrolling for law and order will be normative in the coming years.

3.10. FINANCING MECHANISM

Sl.No.	PARTICULARS	BASE YEAR	TARGET YEAR
1	ALL CENTRALLY SPONSORED SCHEMES UNDER MINITSRY OF HOUSING AND URBAN AFFAIRS (MoHUA)	2022	2047
2	SPECIAL ASSISTANCE FOR CAPITAL ASSISTANCE FROM MINISTRY OF FINANCE (MoF)	2022	2047
3	VGF SCHEME FOR PPP PROJECTS, DEPARTMENT OF ECONOMIC AFFAIRS(DEA), MINISTRY OF FINANCE(MoF)	2023	2047
4	PARVATMALA SCHEME FOR AERIAL ROPEWAYS, MINISTRY OF ROAD, TRANSPORT AND HIGHWAYS (MoRTH)	2023	2047
5	SOVEREIGN LOANS THROUGH BILATERAL AND MULTILATERAL AGENCIES: ADB, JICA, AFD etc	2022	2047
6	NATIONAL ADAPTATION FUND FOR CLIMATE CHANGE AND GREEN CLIMATE FUND	2024	2047

3.10.1. ALL CENTRALLY SPONSORED SCHEMES UNDER MINISTRY OF HOUSING AND URBAN AFFAIRS (MoHUA)

The Central Government provides financial support to the State through centrally sponsored schemes or central sector schemes through 90:10 or 80:20 funding ratio, except for few sub-schemes which are 100% centrally funded. The State is a fully financially-dependent on the Central Government.

3.10.2. SPECIAL ASSISTANCE FOR CAPITAL ASSISTANCE FROM MINISTRY OF FINANCE (MoF)

The Department of Expenditure, Ministry of Finance, Government of India issued guidelines on the Scheme for “Special Assistance to States for Capital Investment 2022-23”, wherein. 6000.00 crore has been earmarked in the union budget for Urban Reforms. “Part VI” of the guidelines specifically focuses on Urban Reforms, wherein the fund is made available to States as incentive for undertaking reforms related to Building Byelaws, Town Planning Schemes, Transit Oriented Development, and Transferrable Development Rights.

3.10.3. VGF SCHEME FOR PPP PROJECTS, DEPARTMENT OF ECONOMIC AFFAIRS(DEA), MINISTRY OF FINANCE(MoF)

In a recent initiative, the Government of India has established a special financing facility called "Viability Gap Funding" under the Department of Economic Affairs, Ministry of Finance, to provide support to PPP infrastructure projects that have at least 40% private equity committed to each such project. Viability Gap Funding can take various forms such as capital grants, subordinated loans, O&M support grants and interest subsidies. However, the Ministry of Finance guidelines require that the total government support to such a project, including Viability Gap Funding and the financial support of other Ministries and agencies of the Government of India, must not exceed 20% of the total project cost as estimated in the preliminary project appraisal, or the actual project cost, whichever is lower.

3.10.4. PARVATMALA SCHEME FOR AERIAL ROPEWAYS, MINISTRY OF ROAD, TRANSPORT AND HIGHWAYS (MoRTH)

In order to improve the logistics and transportation to improve connectivity to religious, tourist, inaccessible areas and congested urban centres, NHLML, a fully owned SPV of NHAI responsible for driving strategic initiatives to improve logistics efficiency in India, has been mandated by the MoRTH to undertake the projects pertaining to ropeways and other innovative/ alternative mobility

solutions under the National Ropeway Development Program – Parvatmala Pariyojana.

The scheme will be implemented using a PPP (Public-Private Partnership), which will be a preferable ecologically sustainable alternative to conventional roads in difficult hilly areas. The goal is to improve commuter connectivity and convenience while also promoting tourism.

3.10.5. SOVEREIGN LOANS THROUGH BILATERAL AND MULTILATERAL AGENCIES: ADB, JICA, AFD etc

Bilateral development agencies finance projects that contribute to the economic and social development of recipient countries. Unlike international financial institutions, bilateral agencies are responsible to a single government and are often part of a government ministry.

These agencies may use either program-based approaches (PBAs) or project-based approaches, or a combination of the two. PBAs, as the name suggests, concentrate on providing program-wide, coordinated support for a locally owned development program using a single budget and harmonized donor procedures. The project-based approach tends to target its assistance in more specific and detailed ways and generally involves a higher level of donor-country control.

3.10.5.1. NATIONAL ADAPTATION FUND FOR CLIMATE CHANGE AND GREEN CLIMATE FUND

The National Adaptation Fund for Climate Change (NAFCC) was established to support adaptation activities in the States and Union Territories (UTs) of India that are vulnerable to the adverse effects of climate change. NAFCC is implemented in project mode and till date, 30 projects are sanctioned in 27 States and UTs.

3.10.5.2. GREEN CLIMATE FUND

Climate change offers businesses an unprecedented chance to capitalise on new growth and investment opportunities that can protect the planet as well. GCF employs part of its funds to help mobilise financial flows from the private sector to compelling and profitable climate-smart investment opportunities. The Green Climate Fund (GCF) – a critical element of the historic Paris Agreement - is the world's largest climate fund, mandated to support developing countries raise and realize their Nationally Determined Contributions (NDC) ambitions towards low-emissions, climate-resilient pathways.



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