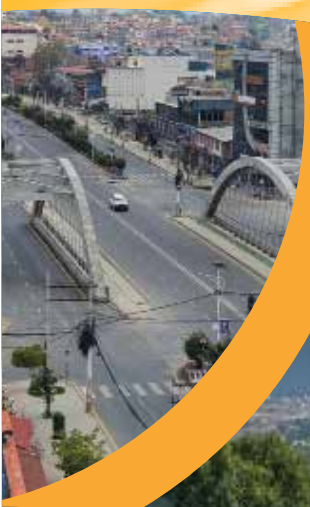
SECTORAL PROFILE

URBAN INFRASTRUCTURE



GOVERNMENT OF NEPAL
INVESTMENT BOARD NEPAL

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Publisher
Investment Board Nepal
ICC Complex, New Baneshwor,
Kathmandu, Nepal
Phone: +977-1-4575276, 4575277, 4575278
Fax: +977-1-4575281
Email: info@ibn.gov.np
Website: www.ibn.gov.np

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CONTENTS

ACRONYMS

ADB	Asian Development Bank
DUDBC	Department of Urban Development and Building Construction
DWSC	Department of Water Supply and Sewerage
GoN	Government of Nepal
KMC	Kathmandu Metropolitan City
KUKL	Kathmandu Upatyaka Khanepani Limited
KVDA	Kathmandu Valley Development Authority
LGs	Local governments
MLD	Million litres per day
MoFAGA	Ministry of Federal Affairs and General Administration
MSW	Municipal solid waste
NPC	National Planning Commission
NWSC	Nepal Water Supply Corporation
PPP	Public private partnership
SDGs	Sustainable Development Goals
STWSSP	Small Town Water and Sanitation Sector Project
TDCs	Town Development Committees
TLO	Tole Lane Organisation
TPD	Ton per day
WWTP	Wastewater treatment plant
WSUA	Water and Sanitation Users' Association

1. OVERVIEW

The urban population has grown significantly, particularly after state restructuring and subsequent declaration of new municipalities in 2017. According to the 2021 Census, 66.2% (around 19 million) of the population live in urban municipalities – 5.94% in the mountain region, 40.3 in the hills and 53.7% in the Terai.

The urban and suburban areas account for 63% of Nepal's gross domestic product (GDP) as stated in Economic Survey – 2014/15 of which, Kathmandu Valley alone contributed 23.4% (NUDS, 2017).

Nepal's annual population growth rate in 2021 was 0.92%, while it was 1.36% for urban municipalities. Likewise, the population density in urban municipalities was 373 compared to national average of 198. Out of the total 6,660,841 households, the percentage residing in owned housing units was 80.9% in urban municipalities and 96.5% in rural municipalities. The number of households residing in rented houses of urban municipalities throughout the country was 17.8% and that was 38.66% in Bagmati Province (National Census, 2021).

1.1 Major urban clusters

The number of municipalities has reached 293 and the urban population has grown to around 65% of the total. Migration from surrounding villages to the cities has also increased rapidly. Therefore, it is necessary to improve the urban environment and living standards by providing quality urban infrastructure services and facilities (15th Plan/ GoN).

Population in urban municipalities: **66.2%**

Nineteen urban clusters accomodate **10.58 million** people

Table 1: Urban growth trend by ecological regions and province

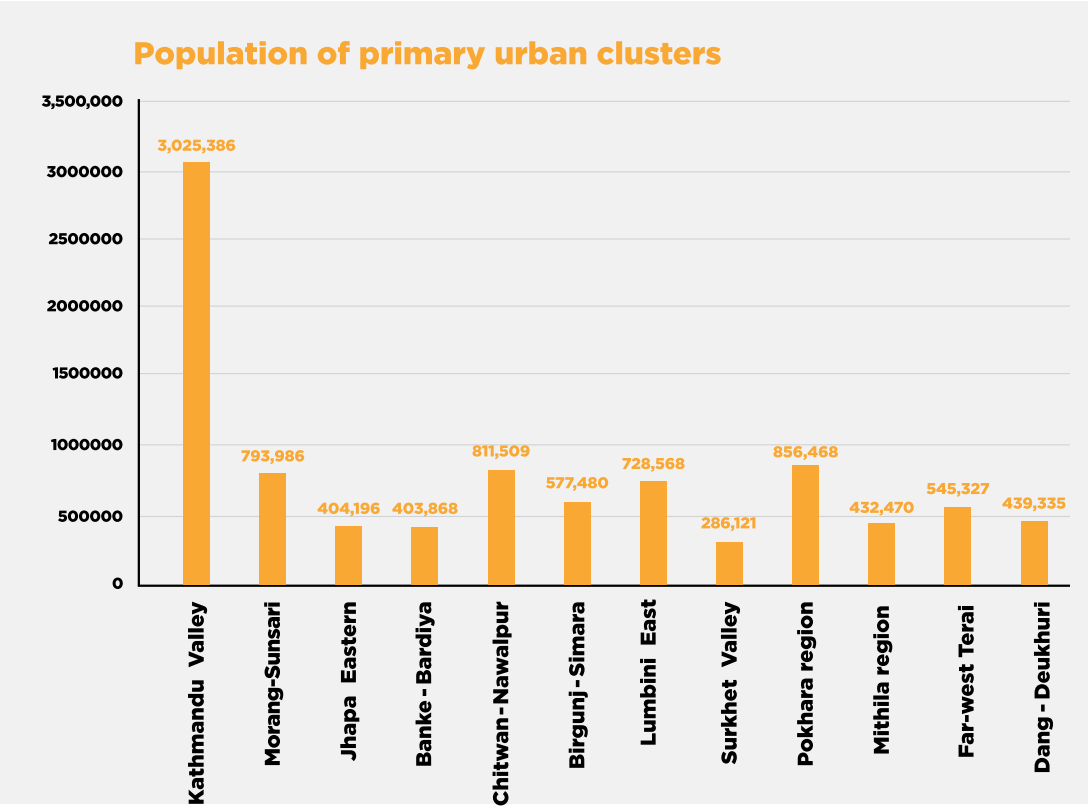
Eco Region	Urban Places				Urban Population (%)			
	1991	2001	2011	2021	1991	2001	2011	2021
Mountain	0	2	2	15	0	1.4	1.1	5.94
Hills	13	27	27	97	51.2	53.2	54.6	40.3
Terai	20	29	29	163	48.8	45.5	44.3	53.7
Total	33	58	58	293	100	100	100	100
Urban centres by province								
Urban Types	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim	
Metropolitan	1	1	3	1	0	0	0	
Sub-metropolitan	2	3	1	0	4	0	1	
Municipality	46	73	41	26	32	25	33	
Total	49	77	45	27	36	25	34	

Source: National Statistics Office, 2023

Although the official number of urban municipalities is 293, they are not urban in terms of functions and services. Therefore, it is important to point out the major urban concentrations in terms of the population and households, as shown below.

The urban settlements have been defined in terms of valleys and corridors to indicate their spatial expansion and growth potentials. Such urban systems are concentrated and have coverage of surrounding small towns and market centres. Urban corridors represent agglomerations of adjoining urban settlements along the North-South road and East-West highway, while valleys have been identified based on catchment areas of urban centres that lie in the hill and inner terai regions. Such corridors and valleys indicate the extensive connection of settlements and how they have been linked by infrastructure (NUDS, 2017). The following are the proposed urban valleys and corridors: Location map of the valleys and corridors is provided in the Annex.

Nepal has clustered major cities and urban settlements into 12 primary and seven secondary regions to assess the urban infrastructure needs. This modification and clustering of urban regions has been developed following the pathways of National Urban Development Strategy – 2017. Each of the clusters have concentrated city centres, usually metropolitan and sub-metropolitan cities, that are surrounded by satellite towns. The newly extended urban corridors have similar structures, single economic sphere, and transport sharing, and could be functionally linked to each other in the future.



Urban valleys	Urban corridors
Udayapur Valley	Birtamod – Kakadvitta
Sindhuli Valley	Biratnagar – Dharan
Hetauda Valley	Janakpur – Bardibas
Chitwan Valley	Birgunj – Pathalaiya
Kathmandu Valley	Butwal – Bhairahawa
Pokhara Valley	Nepalgunj – Kohalpur
Dang Valley	Dhangadhi – Attariya
Surkhet Valley	

Source: Detailed document of NUDS, 2017

The 15th Plan has emphasised the integration of urban centres by complementing their functions and linking them through urban infrastructure. Most of the proposed urban clusters extend beyond a local government jurisdiction but remain within a single province. The Chitwan – Nawalpur cluster is the only one that crosses over provincial jurisdiction.

1.2 Defining urban infrastructure

Urban infrastructure (UI) is a multifaceted concept that goes beyond a set of physical objects, facilities, utilities, and systems. Urban infrastructure provides people access to services and facilities to make their lives efficient and helps to improve the economic and social status of the cities and the surroundings. Urban infrastructure affects everyone – regulators, consumers, citizens, businesses, and households. From an engineering perspective, urban infrastructure refers to providing water, energy, transport, sanitation, information, built environment and water diversion systems – dams, locks, and canals. It also covers facilities – schools, hospitals, and municipal utilities – electricity, telecommunication, gas, water, and wastewater, along with urban street and highway elements (Ferrer, Thome and et.al, 2018).

In Central European cities, traditional urban infrastructure has been defined to include objects made of solid materials – concrete, iron, plastic, wood, glass, and other metals. The appearance would be different based on shape, size, and intensity of the cities, where infrastructures include basic facilities – such as cemeteries, prisons, police and fire brigade, cycle path, car parking lots, river and lake embankment, canals, biomass, parks, and street furniture. Besides these, libraries, community centre, public buildings, etc. are also included as urban infrastructure (Longa, 2023).

Urban infrastructure connects time, space, and places along with providing easier access. The systems include digital technology, sewerage facilities, energy, communication, global financial exchange, housing, nature strips and urban trees (Steele and Legacy, 2017). Urban infrastructure is also inter-connected with other sectors, such as recreational parks, city gardens and waterfronts that can be accounted for both urban infrastructure and as tourism facilities. Similarly, building could come under both urban infrastructure and the transport sector. Developing water-supply systems, solid-waste processing facility or waste-water treatment plants are the core functions of urban infrastructure

and services but can also be grouped under environment and sanitation.

Cities are complex systems. Before the 1960s, a city used to be framed as a living organism that thrived on diversity and had greater liveability. A city requires three types of infrastructure – utilities, urban spaces, and buildings (Weng, Ferrari and Grey, 2019). These include,

Utilities Transport, water, waste management system, information technology

Urban space Streets, urban plazas, local squares, playgrounds, parks, etc.

Buildings Personal housing, educational and health buildings, community centres

The National Urban Development Strategy – 2017 has defined urban infrastructure by categorising the seven sub-sectors, as follows:

- Urban water supply
- Urban sanitation and sewerage system
- Solid waste management
- Housing facilities
- Urban transport
- Urban energy

1.3 Sub-sectors of urban infrastructure

Urban infrastructure has number of sub-sectors. This report has attempted to extract information on investment opportunities based on the following sub-sectors:

- Urban water supply system
- Waste-water and sewerage network
- Solid waste management
- Urban transport support facilities
- Personal housing and land
- Combined market facilities – Collective sales outlet
- Recreational parks and convention Centres
- Management of heritage sites

A study conducted on behalf of the United Nations Economic and Social Council for Asia and Pacific (UNESCAP) in 2017 shows the need of infrastructure financing for economic development. It shows how infrastructure can bring faster growth to the economy and contribute to changing lives of people and ultimately address sustainable development (Dixit, 2017).

1.4 Profile of sub-sectors

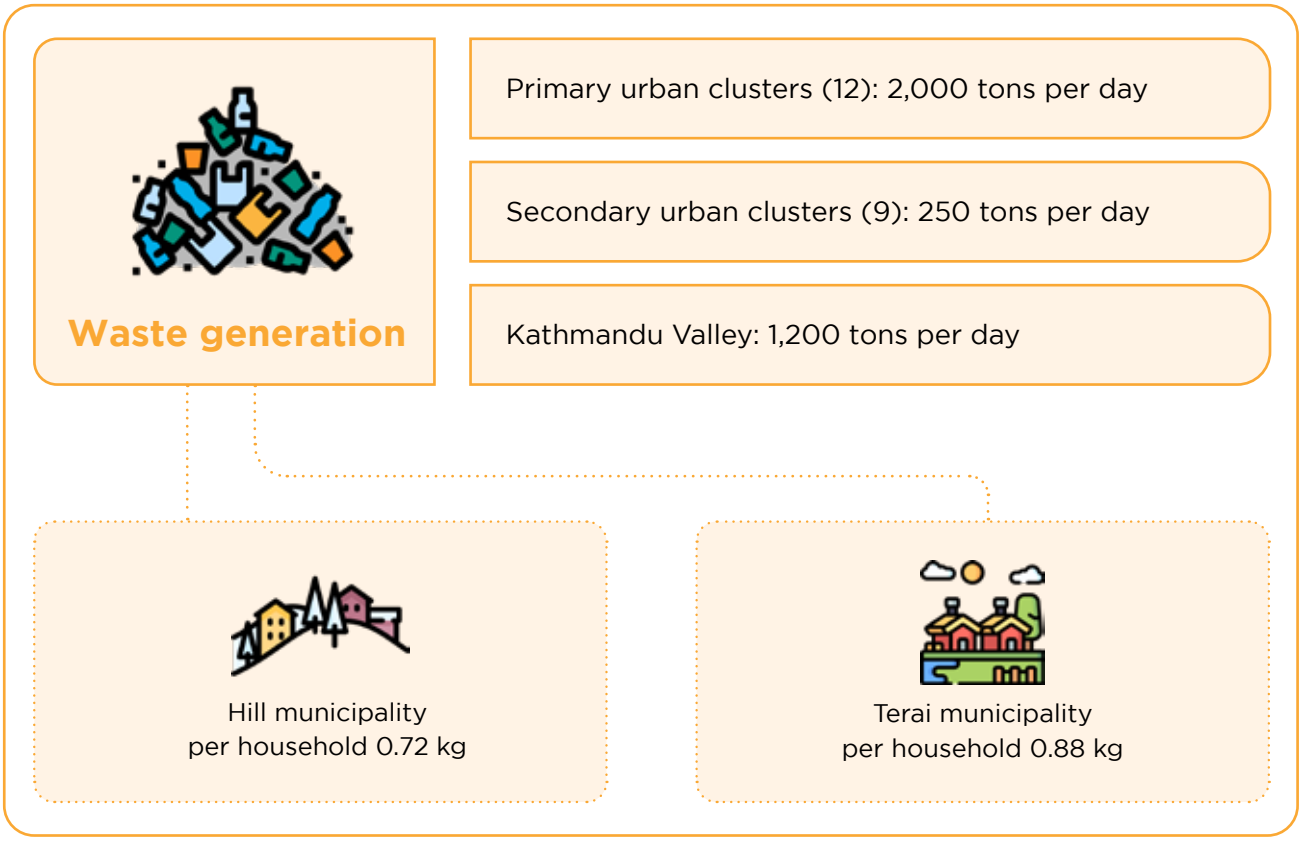
Solid waste management

Solid waste management includes the services of waste collection, street sweeping, transfer to disposal site, treatment, and processing, recycling, and disposal. Municipalities must design systems to recover service costs for waste management to reduce funding gaps (Nepal, 2016). Municipalities have been spending 16% of their annual budgets on average in municipal waste management. Of the total spent, 60% was spent in waste collection and street sweeping, 20% in transfer and waste carrying vehicles, and 15-20% are in disposal and landfilling (ADB, 2013).

Waste generation differs by geographic regions, because of the different types of economic activities. A study of ADB in 2013, said the waste generation was as follows: 0.72 kg/household (Hill), 0.88 kg/household (Terai), 4 kg/school, 1.4 kg/office, 1.4 kg/shop, and 5.7 kg/hotel in a day.

Based on the above waste generation rate, we can calculate the household waste generation in different urban centres. The estimated waste produced

Waste management



in Kathmandu Valley is about to 1,200 tons per day.

Three major three components must be accounted for in municipal waste management: Waste collection and street sweeping, waste processing and recycling; and waste disposal and landfill facilities.

Waste collection and street sweeping

Municipal waste collection has been organised in three ways: municipal sweepers with vehicles, contracts with private companies and community groups, or Tole Lane Organizations (TLOs) for collecting and taking waste to transfer stations. In most large and medium-sized cities, there are agreements with local private organisations for door-to-door waste collection with a tariff for households. Municipalities must collect and manage 2,500 tons of waste per day from the households and streets, which adds up to 914,216 tons per year for the country. Of the total, Kathmandu Valley generates, collects, and transfers the waste 30 km away to the landfill site at Banchare Danda every day.

Waste processing and recycling

The volume and type of waste generated must be known before organising waste processing and recycling. Generally, organic waste can be processed through manure making. Inorganic waste like plastic, paper and glass/metals can be recycled and processed. Table 2 shows the proportion of different waste categories.

The census of 2021 has reported the following:

- 78.2% municipalities reported handling of municipal waste in different ways. Of them, 14.2% municipalities were recycling waste partially. The recycled quantity of waste accounted for 4.1% of the total collected.
- Similarly making manure through organic waste processing was very low among the municipalities, which averaged at around 10% of the municipalities surveyed.
- Waste to energy is another component of waste processing. Less than two per cent municipalities had introduced technology to transfer the waste into energy sources i.e., biogas, briquette, electricity, etc.

The information above indicates opportunity to scale-up the waste recycling at the municipalities.

Waste disposal and landfilling

Appropriate waste disposal with scientific landfilling has been a challenge for municipalities. Most municipalities have not built sanitary landfills as per scientific standards. The municipalities largely dispose waste through three methods – piling up in the landfill, burning it on open land and piling up waste on riverbanks. More than 25% municipalities dispose waste on riverbanks.

According to CBS (2021), 42% municipalities used landfills and 43.2% had not been using landfilling practices, and the remaining 14.7% had no need for landfills. Among the municipalities using landfills, 85% had their own designated sites and the rest were using land of others on contractual arrangements. Among the municipalities using landfills, only 13.7% had proper, sanitary sites. Among the surveyed municipalities, 85.6% had minimum equipment and machinery for managing municipal waste.

Water supply

About 88% of population in Nepal has basic water supply. This does not mean

Table 2: Waste composition in urban municipalities (% share)

Waste composition	Household	Institutional	Commercial	Overall
Organic	66	22	43	56
Plastic	12	21	22	16
Paper	9	45	23	16
Glass and metals	5	2	6	5
Others	8	11	7	7

Source: ADB, 2013

Water supply

that all have access to quality drinking water. Statistics show that only 52% of the population has access to piped water supply.

A study has revealed that 89% of the urban population has access to basic water supply but only 34% of the supply was safely managed, and the remainder had low assurance of adequate quantity, quality, and reliability. Despite several attempts to improve water quality, only 15% of the existing water system is said to comply with national water quality standards.

According to data from the 2021 census, 54.2% households in urban municipalities use tap/piped water as main source of drinking water. The status of water supply services in urban municipalities is provided in Table 3.

There are four types of water supply service providers in urban areas of Nepal.

Kathmandu Upatyaka Khanepani Limited (KUKL) provides water supply services in Kathmandu Valley. It is a joint initiative of Government of Nepal, Kathmandu Metropolitan City, Lalitpur Metropolitan City, Bhaktapur Municipality, Federation of Nepal Chamber of Commerce, and Industry (FNCCI) and Nepal Chamber of Commerce (NCC) to commercialise water supply services among city dwellers. The KUKL has installed 255,450 tap connections to serve about 1,450,000 people. It has installed another 652 public standspouts to serve the poor and floating population.

Nepal Water Supply Corporation (NWSC) is the public sector enterprise to provide services of water supply and sanitation in the major cities. It is a government owned organisation that produces drinking water and sells it to people at rates where the goal is to recover operational cost. The NWSC provides services in 22 major cities outside Kathmandu Valley. These are Pokhara, Biratnagar, Birgunj, Butwal, Hetauda, Bhadrapur, Rajbiraj, Lahan, Janakpur, Jaleshwor, Malangawa, Gaushala, Gaur, Kalaiya, Birgunj, Hemja, Butwal, Bhairahawa, Bahadurgunj, Taulihawa, Krishnanagar, Nepalgunj, Dhangadhi, Mahendranagar, and Banepa.

The NWSC has a total of 136,760 water tap connections including 1,670 government connections with tariff services. An additional 685 public taps are in operation, and they provide free services to poor households. In all, the

Table 3: Water supply services in urban municipalities

Water supply system	Metropolitan city	Sub-metropolitan city	Municipality
Total households	592,920	333,457	638,574
Piped water system (%)	66.14	45.64	45.38
Tube-well system (%)	21.14	38.87	39.22
Other safe system (%)	4.93	4.52	2.91
Rainwater (%)	0.03	0.66	0
Uncovered in given system (%)	7.77	10.91	12.48
Total (%)	**100**	**100**	**100**

Source: DWSC/GoN, 2018

Table 4: Water supply in small towns under urban water supply projects

WS project	No. of towns	Cost (USD)	HHs Connected	Sanitation services (households)	Pipelines built (km)	Period
STWSSSP – I	29	51 million	120,000	5,607	834	2000 – 2010
STWSSSP – II	21	72 million	62,388	47,640	1,785	2011 – 2019
STWSSSP– III	20	65 million	137,500	5,075	1,890	2014 – 2022
UWSSP	20	NPR 9.4 billion	150,000			2020 -

Source: ADB / TDF, 2024

NWSC has been providing services to 1,340,000 people. Besides the regular tap water supply services, it also provides container services at all branches and has established a bottled water factory in Panauti, Kavre.

Water Supply Management Board is a water supply regulatory body and manages the number of service providers within a city. The Government of Nepal has been handing over the property and responsibilities to the board, led by respective local governments. It also includes the private sector. The Water Supply Management Board is operational in Kathmandu Valley, Kavre, Bharatpur and Hetauda. Of these, the Bharatpur Water Supply Board has been providing tap connections to 30,000 households and serving a population of 170,000.

Water and Sanitation Users Associations (WSUA) is the fourth layer of urban water-supply service providers. Such entities have been formed as community led-management initiatives under the Small-Town Water Supply and Sanitation Sector Project (STWSSP) that had covered more than 100 towns. The project was implemented from 2000 to 2022 with an Asian Development Bank loan, under the Town Development Fund (TDF). The number of water supply systems built under the project are given in Table 4.

Urban sanitation and sewerage system

The sanitation and sewerage sub-sector are an integral parts of the water supply system. The sewerage network and waste-water treatment have been included as parts of water supply projects.

The water supply service providers – KUKL, NWSC and WSUAs – have also been building infrastructure for sanitation and sewerage. But the coverage by sewerage facilities is low as indicated

Table 5: KUKL / PID progress in sewerage network and WWTP within Kathmandu Valley

SN	Segment of sewerage network constructed	Completed length of sewerage line & size	No. of manholes
1	Chokanchilla to Hanumanghat (right bank), Ghattekhola to Hanumanghat (left bank), Hanumanghat to Sallaghari (both bank) Sallaghari to Manohara Confluence (both-side)	16.81 km (400 mm – 1000 mm)	402
2	Dibyashwori Planning to Balkumari WWTP (both side)	7.1 (size: 200 mm – 1400 mm)	158
3	Both side of Kasankhusi River to Sallaghari WWTP	7.1 (size: 500 mm – 600 mm	182
4	Combined sewer from Lagankhel to Shankhamul through Patan Durbar square	2.37 (size: 200 mm – 1400 mm)	118
5	Storm water sewer line from Baluwatar Gate no.1 to Tukucha Khola (Sakuna Marga)	1.8 (size: 1000 mm to 1400 mm)	34
6	Sewer network at ward 4, Gokarneshwor municipality to feed sewerage to Gokarna DEWATS.	0.82 (size: 200 mm – 800 mm)	158

Source: KUKL – Annual Report – 2079

by the budget speech of the 2023/24, which had set a target to achieve 4% coverage during the year.

The Department of Water Supply and Sanitation had plans to undertake 111 projects at different urban centres for building sewerage networks, wastewater treatment plants, and study & design them during 2023/24. The Government's annual programme had prioritised establishment of 1000 modern public toilets along highways through public private partnerships.

Several small town and urban water supply and sanitation projects have provided sanitation facilities to selected areas and households in areas covered. As the result, there are more than 20,000 households covered by the sewerage network, and by toilet facilities in 90 small towns / urban municipalities.

The High-powered Committee for Integrated Development of the Bagmati Civilisation is another important agency working in managing the sewer-

Table 6: Sewerage network along rivers in Kathmandu Valley

SN	River	Segment	Length (km)
1	Bagmati	Gokarna – Guheshwori – Teku – Chovar	29.85
2	Bagmati Upper	Sundarijal – Narayantar	13.8
3	Dhobikhola	Dhobikhola Dovan – Baluwakhani Kapan	22.66
4	Bishnumati	Teku Dovan – Sovabhagawati	9.6
5	Nakkhu	Nakkhu Dovan – Kantipur Colony	8.6
6	Balkhu	Civil Colony – Ring Road Bridge	3.6
7	Hanumante	Srijana Nagar – Balkot	10.2
8	Manohara	Work in progress	-
9	Karmanasha	Work in progress	-
10	Mahadev Khola	Work in progress	-

Source: Annual Report / HPCIDBC, 2023

age system along the river corridors of Kathmandu Valley. The committee has a provision to receive fund from the royalty proportion of land transaction registration charges in Kathmandu Valley. A charge of 0.5% of transaction amount is levied on each land sale. The Committee has been working to install sewerage networks, construct wastewater treatment plants, and undertake river sanitation programmes (HPCIDBC, 2079 BS).

The committee has built five treatment plants – at Guheshwori, Kodku, Hanumanghat, Sallaghari and Dhobighat – with a total capacity of 100.5 MLD. Out of the five, the Guheshwori plant has the highest capacity of 32.5 MLD. The committee has also installed sewerage lines along the six rivers segments as provided in Table 6.

Land and housing facilities

Land and housing facility is an emerging sub-sector of urban infrastructure. Both the Government of Nepal and private companies have invested in efforts to provide safe and appropriate land and housing in cities through town planning schemes, land development programmes and housing projects.

Government had developed planned cities in Rajbiraj (Saptari), Birendranagar (Surkhet) Mahendranagar

Table 7: Land pooling projects in Kathmandu Valley

SN	Project name	Area (ha)	Developed plot	Start	Complete
1	Gongabu	14.3	700	1988	1996
2	Sainbu Bhaisepati	28.1	611	1991	2002
3	Dallu	20.1	1,120	1991	2002
4	Kamal Binayak – I	7.4	400	1991	1996
5	Bagmati Phant – I	10	560	1992	2001
6	Lubhu	13.7	720	1993	1996
7	Naya Bazar	42.7	2,320	1995	2003
8	Liwali	34.1	1,800	1995	1998
9	Chabahil Gopikrishna	10.2	259	1995	2002
10	Sinamangal	45.8	1,970	1995	2002
11	Sinti Tar	26.7	1,400	1996	2003
12	Bagmati Nagar	63.4	2,800	2003	2014
13	Chiku Phat – Kirtipur	5.4	300	2004	2008
14	Ichangu Narayan	30.9	1,000	2006	2014
15	Chamati	73.3	3,170	2003	-
16	Kirtipur – II	47.5	2,000	2005	-
17	Kamerotar	45.8	2,500	2006	-
18	Manohara Phant	90.4	3,500	2006	-
19	Tumucho Dumure	30.5	1,500	2008	-
20	Dibyashwori	28.1	588	2009	-
21	Sainbu Nakkhudol	18	500	2008	-
22	Bagmati Phat – II (Shankhamul)	7.1	200	2008	-
	Total	**690.7**	**29,918**		

Source: Fause, Wooldridge et.al, 2020

Land pooling projects

	Completed	Underway
Kathmandu Valley	14	8
Out-side Kathmandu Valley	3	15

(Kanchanpur) and Tikapur (Kailali) during Panchayat era. Later, the Government implemented city planning schemes in Kohalpur, Lamahi and other small towns applying different methods of land development.

Government land development projects

There have been number of schemes in land development for providing developed land plots to the people in growing urban centres. This is done through various approaches such as guided land development, site and services approach and land pooling. The Government has implemented various land pooling schemes across the country. It was first implemented in 1976 at Chipledhunga, Pokhara, covering 13.5 ha. The Gongabu Project of Kathmandu Valley began following the enactment of the Town Development Act in 1988.

Fourteen land pooling projects have been completed and eight are underway. These projects have resulted in the development of 690 hectares of land for 29,918 service plots in three decades. Smaller cities outside Kathmandu have also implemented land pooling projects – three have been completed and 15 others are in various stages of planning (Faust, Wooldridge, Chitrakar and Pradhan, 2020).

Guided Land Development (GLD) has been implemented in three districts of Kathmandu Valley. The process has resulted in development of 352 km roads and about 32,000 service plots.

The Government has carried out several urban development projects with the support of the ADB and World Bank. The Urban Environment Improvement Project (UEIP) was implemented in nine satellite towns outside Kathmandu – Banepa, Dhulikhel, Panauti, Bidur, Hetauda, Bharatpur, Ratnanagar, Kamalamai and Dhadingbesi – during 2000s. Such projects have resulted in development of service plots through land pooling projects. Following the urban growth, GoN implemented Secondary Towns Integrated Urban Environment Improvement Project (STIUE-

Table 8: Road and service plots developed from GLD projects

City	Length (km)	Progress length (m.)	Estimated service plots
Kathmandu	230	230000	20,000
Lalitpur	92	92000	9,000
Bhaktapur	30	30000	3,000
Total	**352**	**352000**	**32,000**

Source: KVDA, 2023

Table 9: Housing and apartment developed by private developers

SN	Housing company	No. of sites	Location
1	CE Construction	22	Kathmandu Valley
2	CG Developers	5	1 (Bharatpur)
3	Downtown Housing	4	Kathmandu Valley
4	Brihat Investment	7	Kathmandu Valley
5	Civil Homes	12	Kathmandu Valley
6	Roadshow Real Estate	16	4 (Chitwan)
7	Padma Colony	7	1 (Itahari)
8	Guna Group	15	Kathmandu Valley
9	CG Properties	7	1 (Panauti)
10	Green Hill Cities	4	Kathmandu Valley
11	Shangrila Housing	2	Kathmandu Valley
12	Mt. View Developers	1	Kathmandu Valley
13	Comfort Goodwill Developers	1	Pokhara
14	Shivam Housing	2	Jhapa
15	Platinum Developers	1	Kathmandu Valley
16	White Horse Developers	1	Pokhara
17	Royal Orchid Developers	1	Kathmandu Valley
18	Wester Properties	1	Kathmandu Valley
19	Classic Developers	2	Kathmandu Valley
20	Comfort Housing	8	Kathmandu Valley
21	Ambe Housing	2	Kathmandu Valley
22	Lifestyle Housing	3	Kathmandu Valley
23	KL Dugar Group	1	Kathmandu Valley
24	Clean Developers	1	Kathmandu Valley
25	Varun Developers	1	Kathmandu Valley
26	KCL Developers	1	Kathmandu Valley
27	Imperial Housing	1	Kathmandu Valley
28	Eastern City Apartment	1	Birtamode
		120	

Source: NLHDA - website, 2023 (Note: 11 projects are outside Kathmandu Valley)

IP) in three cities – Biratnagar, Birgunj and Butwal. Similarly, another project was implemented with ADB support in Dharan, Janakpur, Siddharthanagar and Nepalgunj between 2012 and 2020. In addition, the Regional Urban Development Project is being implemented in Dhangadhi, Attariya, Suklaphanta and Bhimdatta (ADB, 2020). During the period of 2010-2016, the Emerging Town Project was implemented in six municipalities, Itahari, Dhankuta, Mechinagar, Lekhnath, Tansen and Baglung with World Bank support. Further, another New Towns Development Project was implemented in 10 locations along the Mid-hill highway, and while the Intensive Urban Development Projects were implemented in headquarters of various Terai districts.

Several Town Development Committees have been implementing site and services and land pooling projects in number of towns outside Kathmandu.

Housing development by private sector

The Joint Housing Ownership Act, 1997 has designated Department of Urban Development and Building Construction (DUDBC) as regulator of private housing development sector. On behalf of the Department, the Kathmandu Valley Development Authority (KVDA) has been providing permission to interested private developers to build housing and apartments.

According to the Nepal Land and Housing Developers Association (NLHDA), there are 102 private developers involved in private housing. There were 120 development sites in 2024, including projects outside Kathmandu. Kathmandu Valley has 4,200 housing units and 15,000 apartments (KVDA, 2021). Details of the housing sites are provided in Table 9.

Recreational parks and convention centres

Recreational parks and water bodies

Most major urban centres have recreational parks. They generate significant urban services and business opportunities and thus are areas for private sector investment.

Majority of the parks are owned and managed by community groups, and

Table 10: Inventory of recreational parks in Nepal

Name of Park	Address	Management Agency
Government Zoo	Jawalakhel, Lalitpur	National Trust for Nature Conservation
Ratna Park	Bagbazar, Kathmandu	Kathmandu Metropolitan City
Balaju Garden	Balaju, Kathmandu	Kathmandu Metropolitan City
Tribhuwan Park	Thankot, Kathmandu	Government of Bagmati Province
Fun Park	Bhrikutimandap, KTM	Social Welfare Council
Sahid Park	Hetauda	Community Management Committee
James World Fun Park	Bharatpur, Chitwan	Private Operator
Kabilas Fun Park	Kabilas, Chitwan	Private Operator
Fulbari Park	Butwal	Municipality & Management Committee
Hill Park	Butwal	Community Management Committee
Ban Batika - Shankarnagar	Tillottama	Community Management Committee
Srinagar Park	Tansen	Tansen Municipality
Pokhara Disneyland	Lakeside, Pokhara	Private Operator
Fishtail Dream Park	Sitapaila, Pokhara	Private Operator
Taal Talaiya Park	Itahari	Itahari Sub-Metropolitan City
British Gurkha Memorial Park	Dharan	Community Management Committee
Kanyam Park	Kanyam, Ilam	Suryodaya Municipality
Happy Land Fun Park	Surunga Jhapa	Private Operator
Chepti Fun Park	Danabari, Ilam	Private Operator
Rani Talau Park	Nepalgunj	Nepalgunj Sub-Metropolitan City
Wonderland Water Park	Nepalgunj	Private Operator
Ganga Sagar	Janakpurdham	Brihattar Janakpur Development Committee
Dasharath Bhim Garden	Dhangadhi	Dhangadhi Sub-Metropolitan City

Source: Field consultations, 2024

Table 11: Large convention centres in Nepal

City Hall / Convention Center	Address	Status
Birendra International Convention Centre	New Baneshwor, Kathmandu	Federal Parliament
Birgunj Nagar Sabha Griha	Adarsha Nagar, Birgunj	Managed by private company
Sunrise Convention Hall	Godawari, Lalitpur	Operational
Butwal International Convention Centre	Ramnagar, Butwal	Operational
Lumbini Meditation Hall	Lumbini Area	Operational
City Hall – Bharatpur	Chitwan	Under construction
Dipendra Sabha Griha	Prithvi Chowk, Pokhara	Under renovation
Pokhara International Conference Centre	Pokhara	Under study
Municipal assembly halls built by DUDBC		
Bidur (Nuwakot), NPR 227.2 million, Surkhe, NPR 267.1 million, Dhangadhi (Kailali), NPR 322.5 million, Chapakot (Syangja), NPR 413.9 million, Arghakhachi, NPR 401.5 million, Ghorahi (Dang), NPR 252.8 million, Doti, NPR 145.6 million, Damak, NPR 352.5 million and Maulapur (Rautahat), NPR 304.9 million,		
Municipal assembly halls – planned		
Putalibazar (Syangja), Laukahi (Sunsari), Triyuga (Udayapur), Kalikasthan (Rasuwa), Sauraha (Chitwan), Gorkha, Nepalgunj, Damauli (Tanahu), Baitadi, Rukumkot, Resunga (Gulmi), Bhimeshwor (Dolakha), Taplejung, Tansen and Dhankuta		

Source: Consultations with DUDBC, 2024

some are run by private companies. Many fun parks are privately built and managed, and charge entry fees.

Convention Centres

Convention centres provide spaces to people for large public functions such as conferences, seminars, meetings, exhibitions, etc.

Two municipalities have obtained loans from the TDF to construct city halls. Biratnagar Metropolitan city received NPR 2,779 million to build Birendra Convention Hall with a well-furnished auditorium and other meeting halls. Similarly, Kamalamai Municipality, Sindhuli has obtained NPR 1,647 million from TDF to construct a city hall with commercial complex in Sindhulimadi Bazar.

Urban centre	No	Name of shopping mall
Bhat Bhateni Supermarket	13	Bhatbhateni located in – Baluwatar, Maharajgunj, Kalanki, Krishna Galli, Koteshwor, Tokha, Satdobato, Sanagaun, Bhaktapur, Anamnagar, Banasthali, Chabahil, Tripureshwor
Other Shopping malls	30's	Bishal Bazar, Tamrakar House, Rising Mall, Star Mall, Kathmandu Mall, Eye-PEX Mall, City Centre, Civil mall, Labim Mall, United World Trade Center, Durbar Mall, KL Tower, Kantipur Mall, Blue Bird, Chhaya Center, People's Plaza

Collective market facilities

Multipurpose business complexes and shopping malls are important establishments in the cities. The first such complex in Nepal was Bishal Bazar which was built in 1969. Such complexes have now spread to many localities in Kathmandu Valley and other cities.

Shopping malls in Kathmandu Valley

Kathmandu Valley has hundreds of combined market facilities. Bhatbhateni Supermarket established in 1984 is the leading franchise shopping mall with 13 outlets within the Valley. There are more than 30 commercial complexes and shopping malls with combined market facilities. In addition, there are hundreds of grocery stores across the Valley.

Shopping malls in urban centres outside Kathmandu

Many urban centres outside Kathmandu also have collective market facilities as commercial complexes and shopping malls. Important establishments are listed in the box to the right.

Market centres under municipal ownership

In many cities, municipalities have been building commercial complexes to support local markets. For this, the Town Development Fund (TDF) has provided loans of over NPR one billion to urban municipalities, expecting rental income to cover repayment. The average size of such loans for a shopping complex is NPR 150 million.

Urban centre	Name of shopping mall
Bhat Bhateni Supermarket (14 branches)	Outside Kathmandu Valley, Bhat Bhateni has outlets in Birtamod, Biratnagar, Dharan, Itahari, Janakpur, Hetauda, Birgunj, Bharatpur, Butwal, Bhairahawa, Pokhara, Nepalgunj, Dhangadhi, Damak
Pokhara	Bishal Bazar Pokhara, Pokhara Trade Mall, Kunti Mall, Lakeside Centre, Lake Horizon Mall
Dharan	Gorkha Departmental Store, Barah Shopping Complex, Dharan Shopping Complex, Orchid Complex, Dharan-Tamu Complex
Itahari	Gorkha Departmental Store, Itahari Mall
Butwal	Butwal City Centre, Singh Complex
Biratnagar	Central Mall, RK City Centre
Nepalgunj	Western Mall
Bhairahawa	SR Complex
Dhangadhi	DB Complex
Bharatpur	CG Landmark Mall, Maharjan Complex, City Plaza, Jun Hall Complex, City Trade Centre
Hetauda	Hetauda Complex, Narayani Mall, Kapur Complex
Birgunj	Rungtah Mall, Laxmanwa Store
Birtamod	City Centre, Mega Complex, One-Stop Mall, Hanuman Central
Damak	Gorkha Departmental Store, Damak Mall, Everest Complex

Source: Field Consultations, 2024

Table 12: Shopping complexes under construction through TDF loan 2080/81

Market facilities	Address	Cost '000
Belbari Commercial Complex & Local Product Market	Belbari, Morang	200980
Jiri Commercial Complex and Local Production Centre	Jiri, Dolakha	105801
Tulsipur Commercial Complex	Tulsipur, Dang	281739
Dasharath Chand Multi-purpose Complex	Gothalapani, Baitadi	46620
Gujara Multi-purpose Complex	Gujara, Rautahat	88331
Satdobato Shopping Complex – Charikot	Bhimeshwor, Dolakha	175558
Damauli Shopping Complex	Byas, Tanahu	288544
Kohalbi Market Centre	Kohalbi, Bara	172873
Budhabare Agriculture Market	Sundarharaicha, Morang	142688

Source: TDF – Annual Report, 2023

Urban fransport facilities

Bus terminals and parking lots

Most of the cities in Nepal have bus terminals but these are insufficient to meet the requirement of both passengers and vehicular movement. Kathmandu Valley has number of bus parks/terminals, but they are unmanaged and congested. The old bus park in Kathmandu used to be a long route bus terminal until 1990, and it served the city buses and buses travelling on the northeast routes after the new bus terminal was constructed in Gongabu. Kathmandu Valley has several local bus parks with limited structures in Lagankhel, Chapagaun, Bhaktapur, Kamal Vinayak, Budhanilakantha, Kirtipur, Sundarijal and Sankhu. Similarly, Kavre Valley has three separate bus parks in Banepa, Panauti, Dhulikhel.

Outside Kathmandu, most of the cities in Terai and highway transit centres have bus terminals with moderate facilities. The status of bus terminals in major cities is provided in Pages 17-19.

Most municipalities have received loans form the TDF for building, renovation, and improvement of bus terminals and some cities have received grants from the ADB or the World Bank as part of integrated urban development projects. Some municipalities have signed agreements with TDF for the construction, extension, and improvement of bus terminals. Butwal sub-metropolitan city has obtained a loan for building a multi-storey parking facility.

Overhead bridges

Flyovers, overhead bridges, and traffic-lights in highway crossings are indications of highly urbanised transport infrastructure. Increased presence of such infrastructures can ensure safety and reduce travel time of city dwellers. Nepal is building its first fly-over at Gwarko, Lalitpur (cross-section of Ring-road).

In addition, there is one underpass at Kalanki (cross-section of Ring-road) and some pedestrian overhead bridges in high traffic cross-roads. Below is a list of pedestrian overhead bridges in highways and city junctions:

Kathmandu Valley (17)	Ratnapark, Bhotahiti, Jamal, Sundhara (2), New Baneshwor (2), Chabahil, Pulchowk, Koteshwor, Araniko Highway (7)
Pokhara (1)	Srijana Chowk
Butwal (4)	Bus Park, Chauraha, Kalikanagar, Yogikuti
Bhairahawa (2)	Buddha Chowk, Devkota Chowk
Tilottama (3)	Manigram, Bhalwadi and Shankar Nagar
Damak	Damak Chowk

Table 13: List of bus park and parking facility under construction with TDF Loan

Project name	Address	Estimated cost '000'
Kohalpur Bus Park	Kohalpur, Banke	306,402
Butwal Multi-storey Parking Building	Butwal, Rupandehi	304,042
Itahari Bus Park – Improvement	Itahari, Sunsari	162,218
Hetauda Bus Terminal	Hetauda, Makawanpur	344,997
Jaleshwor Bus Park	Jaleshwor, Mahottari	152,096
Chhinchu Bus Park	Bheriganga, Surkhet	185,820
Palpa Bus Park	Tansen, Palpa	249,017

Source: TDF Report, 2023

City	Status of bus terminal	Photographs
Kathmandu	Gongabu Bus Terminal or the New Bus Park has been operated by the private sector. It is crowded, inadequately managed and needs improvements.	
Kathmandu	The city bus park in Bagbazar is under construction as part of the KTM Tower. The KMC had agreed with the private sector to build a bus terminal and the tower. The project has been delayed.	
Itahari	Itahari bus terminal lies 2 km south from city centre. It is the only urban infrastructure financed by private commercial bank in Nepal. The bus park has not been able to meet the local needs.	
Dharan	Dharan is a strategic transit centre to eastern hills of Nepal. It has been using an old and crowded bus station at Bhanu Chowk. This needs to be substituted by a modern bus terminal.	
Birgunj	The city is the country's largest trade and transit point. A bus park has been built using an ADB loan and is now in operation under a PPP arrangement.	

City	Status of bus terminal	Photographs
Hetauda	The old bus park was built with an ADB loan in 2002, which is now incapable to provide public transport services as the city has grown rapidly after it was declared the province capital. It is now being upgraded with loan from TDF.	
Bharatpur	The bus terminal was built in 2002 with an ADB loan. It is not centrally located but the municipal office has been forcing public buses to operate their service from the terminal. Municipal office has paid back the loan from its income.	
Pokhara	Pokhara city bus-park in Prithvi Chowk is crowded, inadequate and messy. The municipal office has planned to upgrade it but has not succeeded due to land ownership issues. Pokhara needs to have a modern, high-tech bus terminal.	
Butwal	Lumbini bus terminal in Butwal was built with a TDF loan in 2001. Due to high volume of buses, its income was sufficient to pay back the loan. Butwal now needs to improve and extend parking and transit services to public buses.	
Tulsipur	The bus stop here is a gateway to hills of Salyan, Pyauthan, Rolpa & Rukum. It is also a starting point for bus services to Nepalgunj, Butwal, Surkhet and to the cities of east Nepal and Kathmandu. The existing facilities are adequate.	

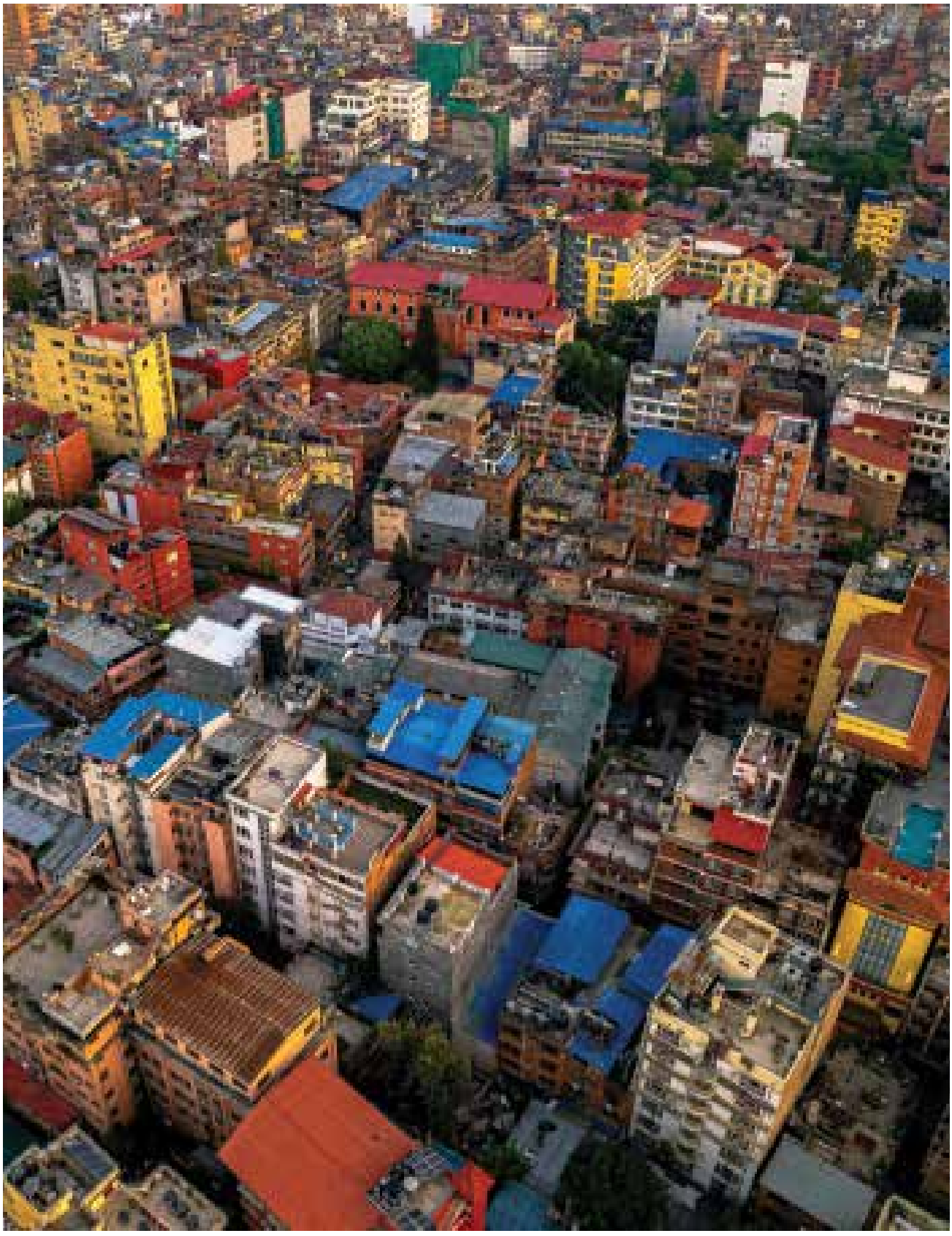
City	Status of bus terminal	Photographs
Kohalpur	Kohalpur has recently built a modern bus terminal with a TDF loan. It is to be managed under PPP and is expected to pay-back the loan from its income. Being a transit city, Kohalpur has to serve inter-provincial passengers.	
Attariya	Although the city is providing large scale transit in western Nepal, the bus terminal is poor, messy, and neglected. Attariya needs to have a modern and well-maintained bus-terminal.	
Beni	The Beni bus park faces high congestion of traffic headed to Mustang, the country's famous tourist and pilgrimage destination. Most passengers travel first to Beni then take smaller vehicles to Jomsom. There is a need for an improved bus terminal.	

Management of heritage sites

Nepal has several heritage sites that are managed by the Government. These include UNESCO World Heritage sites such as Pashupatinath, Swoyambhunath, Boudhanath, Kathmandu Durbar Square, Patan Durbar Square, Bhaktapur Durbar Square, Lumbini, Changunarayan Temple, the Pashupatinath Temple and Lumbini. Some of these sites are managed by the federal government, and some by local governments.

The following are some other important heritage sites that are managed by different levels of government:

Heritage sites in Kathmandu Valley	Heritage sites outside Kathmandu Valley
■ Khokana, Lalitpur ■ Aadinath Temple, Chovar, ■ Dakchhinkali Temple, Kathmandu ■ Boudha Nath Stupa, Kathmandu ■ Bajrayogini Temple, Sankhu, Kathmandu ■ Balkumari Temple, Thimi, Bhaktapur ■ Godawari, Lalitpur	■ Janaki Temple, Janakpur ■ Tilaurakot, Kapilvastu ■ Barahachhetra, Sunsari ■ Budha-Subba and Pindeshwor, Dharan ■ Gadhimai, Bara ■ Kakrebihar, Surkhet ■ Gorkha Durbar Museum, Gorkha ■ Palpa Durbar and Ranimahal, Palpa ■ Ruru Chhetra, Gulmi
Different forts under municipal management:	
Hatuwagadhi, Udayapurgadhi, Sindhuligadhi, Makawanpurgadhi, Chisapanigadhi, Jitgadhi, Upardanggadhi	



1.5 Availability of inputs

Land: Adequate land for construction sites of water-supply, wastewater and sewerage management, solid waste management, urban transport facilities and other public amenities is arranged by the concerned government authority. Private investors are expected to arrange land for projects such as housing development, shopping mall and recreational parks, a process that is facilitated by government agencies that approve the investment.

Construction materials: Construction materials such as cement, iron and steel and construction aggregates and boulders are readily available in-country. The district administration offices declare the average cost of construction materials annually. Nepal has 65 cement factories with production capacity of 22 million tons per year, against the annual domestic consumption of 12.5 million tons. Similarly, production of iron and steel from 83 registered factories is also 2.5 times higher than the annual consumption, of 1.4 million tons. Overall, about 100 municipalities have been selling around 80 million tons of sand and gravel every year. Additionally 700 crusher factories process and produce construction aggregates.

Human resources and technology: The availability of human resources and technology varies across projects, as discussed below:

- Water supply and sanitation planners and engineers are readily available. The country has developed several water supply and sewerage projects which have contributed to accumulate both knowledge and experience.
- According to the Nepal Engineering Council, there are 36,000 civil engineers, 2,500 architects, 370 environmental engineers and 350 public health engineers in the country.
- Human resources in building design and construction of shopping malls, convention centres and housing projects are easily available.
- Government agencies have been providing extensive training on plumbing to young people and has certification schemes in place, the required mid-level skilled technicians on water and sanitation are also available.
- Heavy equipment, machinery and trunk pipelines need to be imported from India and abroad.
- Waste processing, recycling and energy conversion technologies are relatively new in Nepal. Technologies for segregation, electric-composting, electricity generation and bricks making, etc. need to be imported.
- ICTs and other forms of modern technologies are not widely used in urban transport. Operation of bus rapid transit, smart-card fare payment systems, etc. need to be developed. A public transport company - Sajha Yatayat has recently introduced the technology in Kathmandu.
- Traffic related infrastructures – overhead-bridges, underpasses, flyovers, and smart parking lots need to be introduced gradually.

2. INVESTMENT OPPORTUNITIES

The investment required for urban infrastructure and services has been increasing with the growth of urban centres. The Sustainable Development Goal (SDG) – 11 aims to make cities and human settlements inclusive, safe, resilient, and sustainable. In line with the SDG, Nepal has also adopted the five principles of sustainability, inclusiveness, resilience, green growth, and efficiency (National Urban Development Strategy – 2017) for the sector. The National Planning Commission has projected the investment requirement in urban municipalities at NPR 2,554 billion for next 15 years, which comes to around NPR 137 billion per year. The estimate includes investment in urban roads, water-supply, sewerage network and reconstruction of earthquake-damaged houses (NPC/GoN, 2018). Therefore, there are several investment opportunities for private sector in Nepal's urban infrastructure sector.

2.1 Water supply

Investment is possible when businesses are profitable, and this profit can result from the tariff rates and the willingness of users to pay. The tariff rates of both KUKL and NWSC are similar. Charges are by volume and that for every additional 1000 litres is NPR 32 and NPR 25 for KUKL and NWSC, respectively. The charge for the additional 1000 litres is lower outside Kathmandu Valley. Table 17 provides details of the water tariffs of KUKL and NWSC.

Nepal has varied experiences in private sector participation and commercialisation of water supply services. Since the network and services are under the control of management agencies, the collection of water tariff and the incomes of the utilities are measurable. There are several water supply projects and schemes in urban areas, with private sector engagement.

The Melamchi Project has been built with loans from different financial institutions and the KUKL has been formed as a public private partnership entity for the management of the project and for managing the system for repayment of the loan. Water from the project is to be supplied only to Kathmandu, Lalitpur, Kirtipur, Thimi and Bhaktapur. There are other urban centres with scattered management of water supply, where private investment can assist in enhancing the services.

Water supply system

Processed drinking water

Installation of public taps and water-vending stations

Table 14: Comparative water tariffs of KUKL and NWSC

SN	Connection size (inch)	Min. consumption (Ltr.)	Minimum charge (NPR)		Additional charge per 1000 liters	
			KUKL	NWSC	KUKL	NWSC
1	½	10,000	100	110	32	25
2	¾	27,000	1,910	1,490	71	40
3	1	56,000	3,960	3,420	71	40
4	1.5	155,000	10,950	9,600	71	40
5	2	320,000	22,600	21,600	71	40

Source: Annual Reports of KUKL and NWSC, 2079

Organic waste comprises 66% of total household waste, can be used to produce compost manure

The WSUAs also provide services and have their own tariff mechanisms in different urban areas. Since the reach of treated, piped water is still low, the private sector can consider investing in water treatment facilities with business schemes in the major cities.

Three new projects are under study and design for augmenting the water supply for Kathmandu Valley: (1) Thosne khola Reservoir (Lalitpur) has an estimated water storage 200 MLD and will have a 100 meters high dam. The project is under detail study by the DWSS. (2) Sisneri Khola Dam (Makawanpur) for producing water 140 MLD and piping the water to Kathmandu. This project is an undertaking of the Kathmandu Valley Management Board. (3) Mahadev Khola storage project (Bhaktapur) to produce about 100 MLD water for supplying to the satellite towns in Bhaktapur. The government is open to engaging private investors in such projects. Further, processed drinking water companies are equally attractive for private investors. Considering the density of the population in Kathmandu Valley and other populated cities, installation of public taps and development of water vending stations could be of the interest of the private sector.

Solid waste management

Changing urban settings have put pressure to government agencies to build improved solid waste management systems in Nepal. There are business opportunities in all stages of municipal solid waste management. All together 66% of total household waste can be used to produce compost manure, indicating attractive investment opportunity for the private sector.

Multipurpose commercial complexes and convention centres

As per the cost estimated for a TDF-funded shopping complex, the average invest-

Waste collection in Kathmandu Valley	KMC collects waste through private companies and local organisations. These organisations collect waste and collect monthly tariff from households and businesses without formal contracts. Information from representatives of such private organisations suggests that there are about 90 companies and organisations that collect waste from about 300,000 households in Kathmandu Valley. They charge a minimum of NPR 500 per household per month, which can result in substantial revenue collection.
Waste collection outside Kathmandu	Outside Kathmandu Valley, there are several companies working on municipal waste collection, transfer and street sweeping under formal contracts with municipalities. This has been practiced in Bharatpur, Pokhara, Butwal, Tilottama, Kawasoti, Biratnagar, Itahari, Hetauda, Gorkha, Tansen, Banepa and others. There are other towns where there is potential for engaging the private sector under similar arrangements.
Municipal waste processing	The opportunities in municipal waste processing include waste to energy, compost making and recycling. Many municipalities make compost from organic waste, but this is not done commercially. There is a market for compost in Nepal. Further, about 25% of the waste of Kathmandu Valley is recyclable and can be recovered from segregation. The average price of such material -- plastics, metal, glass, and paper -- at market rates is around NPR 15,000 per ton. Since waste of Kathmandu Valley may have 130 tons of recyclables per day, this could result in a high turnover. A World Bank (2020) assessment said urban Nepal generated about 1.8 million tons of municipal waste and the organic part of the waste could generate 188203 cubic meters biogas. This is another area that could result in reasonable returns.

Table 15: Annual average investment requirement for urban infrastructure (NPR billion)

Intervention	2016-19	2020-22	2023-25	2026-30	Average over 2016-2030
New roads	54.2	62.1	69.8	81.7	66.8
Upgrading of existing roads	20.1	22,	25.7	30.1	24.7
HH with piped WS	1.1	1.2	1.4	1.7	1.4
HH with toilet	0.5	0.5	0.6	0.7	0.6
HH with electricity	0.2	0.2	0.2	0.3	0.2
Development of landfill site	0.08	0.08	0.09	0.2	0.09
Storm drainage	25.2	28.9	32.6	38.1	31.2
Sewerage	10.1	11.5	12.9	15.2	12.4
Total urban infrastructure	111.48	127.36	143.29	167	137.4
Housing for Poor	0.7		3.8	11.2	5.1

Source : NPC/GoN, 2018

ment required to build a shopping mall is NPR 150 million. Such shopping complexes have begun appearing in major urban centres, while some companies (Bhat Bhateni, for example) also have multiple outlets across the country.

Shopping complexes can be established along busy highway junctions/emerging towns. Some potential locations are:

- Galchhi, between Kathmandu and Pokhara on highway leading to Rasuwagadhi on the Chinese border.
- Abukhaireni / Dumre, between Pokhara and Bharatpur with road link to Gorkha and Lamjung.
- Pathlaiya / Simara, along the highway from Kathmandu - Hetauda - Birgunj
- Kohalpur, the junction connecting Nepalgunj, Surkhet, Dang and Dhangadhi
- Bardaghat, along the highway from Bharatpur – Butwal – Bhairahawa.
- Itahari, junction between Biratnagar, Dharan, Inaruwa, and Damak.

All cities and modern towns require at least one city hall / conference venue or combined convention centres with several auditoriums. Pokhara Metropolitan city has a plan to build an international convention centre with world-class facilities. Such projects are also available for private investors. The Government is working to hire a private management contractor for the operation of the Birendra International Convention Center, in Kathmandu. Such a modality can also work for other convention centres.

Bus parks, bus terminals and multi storey parking lots

Urban transport

Investment opportunities under urban transport facilities are bus parks and bus terminals and multi-storey parking lots. Most cities with bus terminals have contracts with private partners under 3-5 years management contracts They charge entry fee to public vehicles as per their size, route, and distance they travel. For example, the Lumbini bus terminal, Butwal has hired a private company for management and entry fee collection, for paying-back the loan obtained for construction. Similarly, the Itahari bus park was built with a loan from a commercial bank, which has been paid-back with income from parking fees.

Municipal authorities are seeking investment for construction and operation of bus-park / terminals in Pokhara, Beni, Dharan, Biratnagar, Attariya, Dhangadhi, and Hetauda, among others.

Parks and recreational facilities

The Local Government Operation Act – 2017 has provided municipalities the authority to build recreational sites and to collect entry fees from the structures. Municipalities have built such centres and have made different arrangements to collect entry fees. The Sahid Park, Hetauda and Fulbari Park, Butwal are managed by autonomous bodies of community members, which have been authorised by the municipalities to generate revenue. KMC collects fees using staff at Ratna Park and the Balaju Garden. Private companies have also built such recreational centres such as the

Kabilas Fun Park, Bharatpur and the Chepti Fun Park, Danabari, Ilam.

Kathmandu Skywalk Tower is another private recreational venture that involved an investment of NPR 20 billion. There is fixed entry fee of NPR 1,000 per person. Looking into the current trend of the people seeking for recreation view towers, skywalks, urban gardens, museums, water parks and water fronts are attractive investment opportunity.

Operation and management of heritage sites

The management of heritage sites is another area of possible private interest.

Bhaktapur municipality is collecting significant revenue from visitor entry fees. The amount was NPR 170 million, which is more than 50% of the municipal own-source revenue. Similarly, Kathmandu and Patan Durbar Squares have also been generating revenue by managing the heritage sites.

A private company, Side Walkers P. Ltd., was operating the Dharahara and the Hanumandhoka heritage area under a PPP arrangement until the 2015 earthquake. Two stupas, Swoyambhunath and Boudhanath are overseen by the Tourism Development Committee under the Bagmati Province government. It also charges a fee from tourists. There are entry fees at many other heritage sites in Nepal such as the

Gorkha Durbar Museum, Sindhuligadhi War Memorial and Nuwakot Durbar.

There are many heritage sites that have been enhanced, maintained and operated by the private sector such as the Budha-subba (Dharan), Baraha Chhetra (Sunsari), Balmiki Ashram (Chitwan), and Kakrebihar (Surkhet).

Sewerage lines and wastewater treatment plants

The NPC has projected an investment requirement of NPR 12.4 billion for building a sewerage network and NPR 0.4 billion for public toilet construction. The budgetary allocation in 2079/80 was NPR 2.44 billion. This shows the huge gap in financing for such infrastructure.

Government owned agencies collect tariff for sewerage facilities together with the water supply bill. The KUKL collects 50% of the bill as service charge for sewerage and NWSC has been charging 20% of the total water tariff outside Kathmandu Valley. Similarly, WSUA are also charging minimum tariffs for sanitation services combined with water utility bill in small town project areas.

The private sector has the opportunity to invest in building and operateing sewerage systems and waste-water treatment plants with arrangements to generate the cost through service fees.

Longer-term arrangement of waste-water treatment and sewerage systems with private sector involvement could be an approach for consideration in new urban centres. Private investors can consider such operations also in large cities in Kathmandu Valley, and places like Pokhara, Bharatpur, Biratnagar and Birgunj.

Construction and operation of 1,000 highway refreshment centres (referred by the annual policy and programme of the government) is another project that could of interest to the private sector.

Development of housing

As per the KVDA (2016), there are 4,200 single housing and 15,000 apartments (flats) in Kathmandu Valley. The average price of an apartment is NPR 10 million and that for an individual house is NPR 25 million. Such developments have taken place in Kathmandu, Pokhara, Chitwan, Biratnagar, Birtamod and other urban centres. This is an area where the private sector can still invest as there will be demand for large and medium scale housing projects at highway transit points and provincial capitals at locations like Hetauda, Dhalkebar–Mithila (near Janakpur), Devghat–Gaidakot (near Bharatpur), Begnas (Pokhara suburb), Deukhuri, Itahari and Damak.

- **17.8%** households living in rented houses in urban municipalities (2021)
- **38.66%** households living in rented house in Bagmati province (2021)
- Private sector has developed **4,200** single housing and **15,000** apartments in Kathmandu Valley
- Opportunity to invest in large and medium scale housing projects in highway transit hubs and provincial capitals

Potential projects for investment

Various projects are being discussed by different metropolitan cities, for which they are open to investments from the private sector, and for undertaking them as PPP ventures.

Kathmandu Metropolitan City	■ Management of public transport system using ICT. ■ Installation of public taps and water-vending stations. ■ Operation and management of Dharahara and heritage sites. ■ Construction of metro-lines along the river corridors.
Biratnagar Metropolitan City	■ Construction and operation of multipurpose commercial complex. ■ City-wide water supply management project. ■ Street-light installation and maintenance on 15,000 poles within the city. ■ Water-front and river-bank development project with water kingdom in Singhiya – Keshaliya Khola. ■ Solid waste and waste-water processing and management.
Pokhara Metropolitan City	■ Establishment of smart refresh centres in city chowks with drinking-water, toilet, and shower facilities ■ Construction and operation of Pokhara International Convention Centre ■ Construction and operation of new airport – Lakeside fast-track ■ Landfill site in Ward 32 and waste processing centre in ward 33 ■ Pokhara bus-park at Prithvi Chowk and Regional Bus Terminal Lame-aahal
Bharatpur Metropolitan City	■ Narayani River water-front development and management ■ Solid waste processing and management
Butwal Sub Metropolitan City	■ Construction and operation of multi-storey parking lot ■ Establishment of waste processing and management centre

3. SUPPORT SYSTEM

3.1 Policy and strategy

There are number of policies and laws that encourage private investment in urban infrastructure and the Government also has systems to support and facilitate investors. Some relevant policies and laws related to urban infrastructure are as follows:

National Urban Policy – 2007 	Stressed the need to identify and utilise possible financial resources through private investment in urban infrastructure development. Stated the need of public - private partnerships and foreign investment.
National Urban Development Strategy – 2017 	The strategy has emphasised the promotion of private investment in basic urban services and higher order infrastructure. It has prioritised the facilitation of private investment in water supply, waste-water treatment systems, and public private partnership arrangements in waste collection and management.

3.2 Laws 

Public - Private Partnership and Investment Act, 2019	The Act provides different models of PPP possible for project implementation. It offers projects for development through solicitation; however, unsolicited proposals can also be submitted by the interested investors. Further, the act has a provision for viability gap funding as well.
Local Government Operation Act, 2017	Local governments can operate and manage public private partnerships. Private sector is allowed to collect service fees while managing public services under PPP contracts.
Solid Waste Management Act, 2011	Assigns the responsibility of waste management to local governments (municipalities) and allows private investment in municipal waste management.

Ownership of Joint Housing Act, 1997	Allows private developers for undertaking land and housing projects with permission from the concerned government entity. Developers can sell the housing units and transfer ownership to the new buyer.
Industrial Enterprises Act, 2020	Definition of infrastructure industries provided in annexes: (2) road and bridge, conference centre, water-supply and distribution, vehicle parking lot and parking house, waste-water treatment plant and commercial complex; (5) recreational park / water park, museum; (8) public transport, municipal waste collection and processing, land and housing development, operation and management of conference centres, water-supply, bus-park.
Kathmandu Valley Development Authority Act, 1988	The Authority carries out land development programmes and regulates the development of joint housing by private investors.
Town Development Act, 1988	Requires Town Development Committees to prepare physical development plans with land use zones and carry-out land development programmes. It allows private investment in land and housing projects.
KMC Public Private Partnership Act, 2022	Has provisions for submitting unsolicited projects by private investors and for granting permission for study and development. Establishes a PPP Division under Mayors' secretariat to provide administrative support.

3.3 Incentives and tax exemptions

Industrial Enterprises Act, 2020	■ 40% discount in tax rate on income from infrastructure related industries – road, tunnel, airport, multipurpose complex, etc. ■ 50% discount on installation and purchase of equipment, machineries and technology for pollution control and mitigation, or for recycling and reuse of waste materials. ■ Support & facilitation in acquiring land.
Ownership of Joint Housing Act, 1997	■ Government may provide full or partial exemption of land registration charges, and full or partial exemption in tax, tariff or charges for the operation and management of joint housing schemes.

Local Government Operation Act, 2074	■ Discount in property tax to the remaining housing units or stocks under collective housing or joint housing. ■ Tax exemption for the property of basement, parking, garden, and inner road sections of joint housing schemes.
KMC Public Private Partnership Act – 2079	■ Provisions to support private investors in obtaining discount and facilities under prevailing laws. ■ Provision of providing viability gap funding to important PPP projects by establishing a Project Viability Gap Fund.

3.4 Relevant institutions

Ministry of Urban Development, Government of Nepal Singha Durbar, Kathmandu	■ Partnership arrangement with private investors as indicated by PPP and Investment Act – 2075. ■ Formulation and amendment of urban development national policies and laws.
Department of Urban Development and Building Construction Babarmahal, Kathmandu	■ Design and develop large urban infrastructure projects. ■ Coordination and facilitation support to KVDA and TDCs in formulating land and housing development projects. ■ Partnership arrangement for joint waste processing centres among municipalities.
Department of Water Supply and Sewerage Management Panipokhari, Maharjgunj, Kathmandu	■ Preparation and management of water supply and sewerage projects in major urban centres. ■ Institutional design and partnership arrangement of large-scale water supply projects as prescribed by PPP and Investment Act – 2075.
PPP Division, Kathmandu Metropolitan City, Kamaladi, Kathmandu	■ Discuss with private investors their proposals for partnerships and report to the mayor's secretariat. ■ Design and study of PPP projects to assess their technical, financial, and economic readiness.
Office of Municipal Executive in metropolitan cities (Pokhara, Bharatpur, Biratnagar, Birgunj, Lalitpur)	■ Support municipal executives in developing flagship projects of the city and design partnership modalities for selected PPP projects. ■ Provide technical guidance to the concerned units in designing PPP projects. ■ Coordinate and facilitate with the private sector on their ideas on partnership projects.

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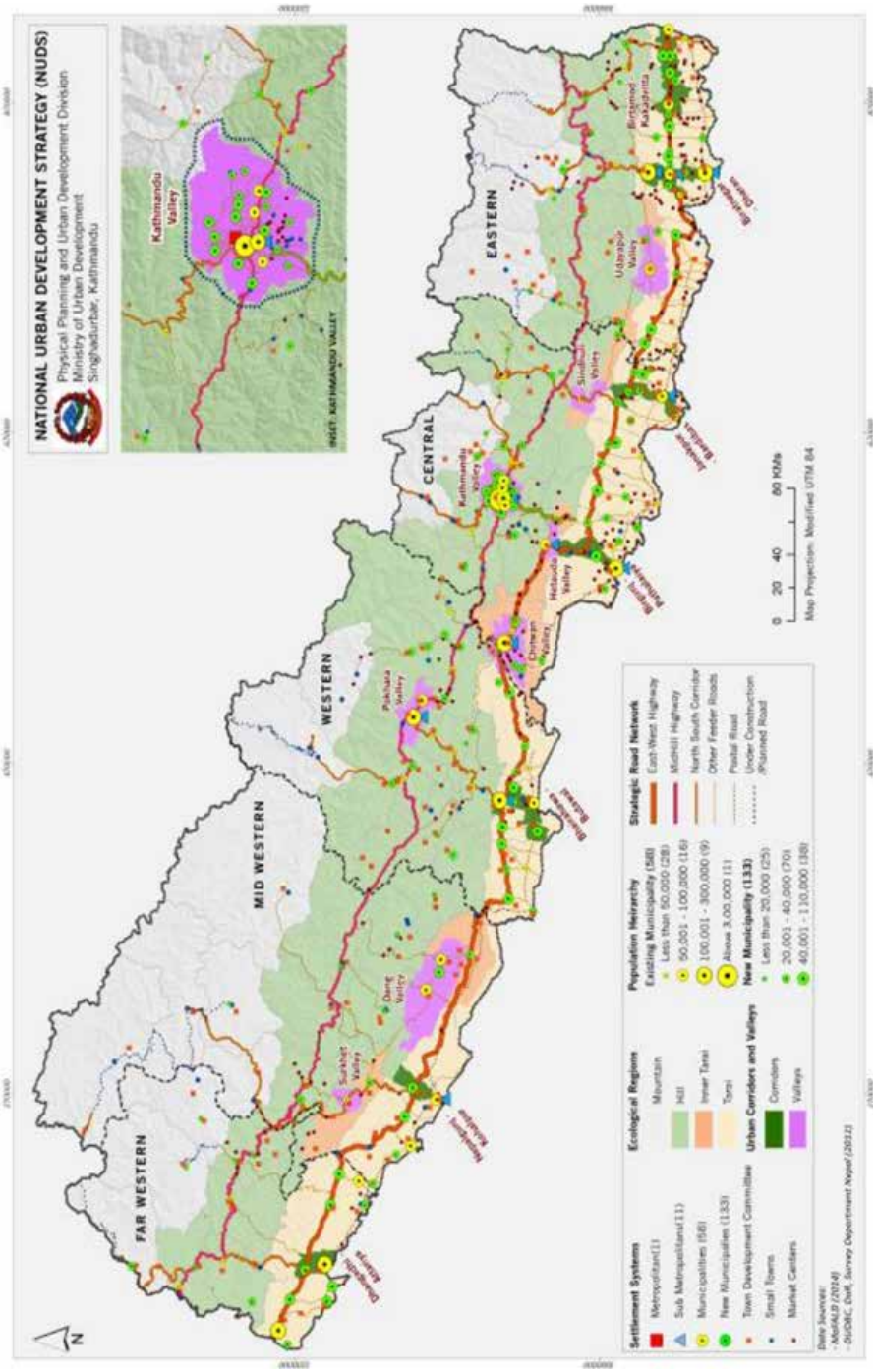
ANNEX: VALLEYS AND CORRIDORS AS URBAN REGIONS PROPOSED BY NUDS – 2017



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GOVERNMENT OF NEPAL
INVESTMENT BOARD NEPAL

ICC Complex, New Baneshwor
Kathmandu, Nepal
Phone: +977-1-4575276, 4575277, 4575278
Fax: +977-1-4575281
Email: info@ibn.gov.np
Website: www.ibn.gov.np