

CHAPTER - THREE

Existing Status of Urban Facilities and Functions

Urban amenities comprise the infrastructures, goods and services that are collectively needed for the urban society. These facilities are central to urban society without which urban society cannot emerge and sustain.

The access to basic amenities like electricity, drinking water, toilet facilities, road (transport), sanitation, health care facilities and solid waste management are critical determinants of urban quality of life (Bhagat, 2010). Although these infrastructures form an important and integral part of life of any society either rural or urban places, they are unequally distributed. Many empirical observations show that facilities are unequally distributed in our communities.

Housing is one of the basic needs of human beings and it needs to have some essential services such as access to improved sources of drinking water, sanitation, cooking fuel and electricity. Possession of these household facilities shows the quality of life and reflects the living standards and the level of socio-economic development of a country. In Nepal, there is regional as well as urban-rural variation in access to these amenities.

3. Urban Centre-wise Facilities and Functions

3.1. Physical Infrastructure

3.1.1. Road Facilities

Road (transportation) network of an urban area can be compared to the blood arteries of the human body. Development of transportation is essential to break through the backward socio-economic condition into the modern ones. Its length must be proportionate to the size of the city and width proportionate to the number of human population and amount of goods and services to be carried within the city and between the city and its hinterland.

The transport network covers the status of various forms such as the airlines, railways, rope ways, trolley, water ways and road ways. It has contributed to overcome the remoteness and isolation as well as the socio economic and political integration of the nation.

In the study area, there are two types of transport network one is road transport and another is air transport.

Table 3.1: Municipality-wise Road Length

Municipality	Road class and length in km.				
	BTR	GR	ER	Total Road	
				TR	%
Dhangadi	92	169.4	202	463.4	51.8
Tikapur	33.11	116.69	115.51	265.31	29.6
Bhimdatt	22.5	103	40	165.5	18.4
Total	147.61	389.09	357.51	894.21	100

Source: Municipality Record - 2072

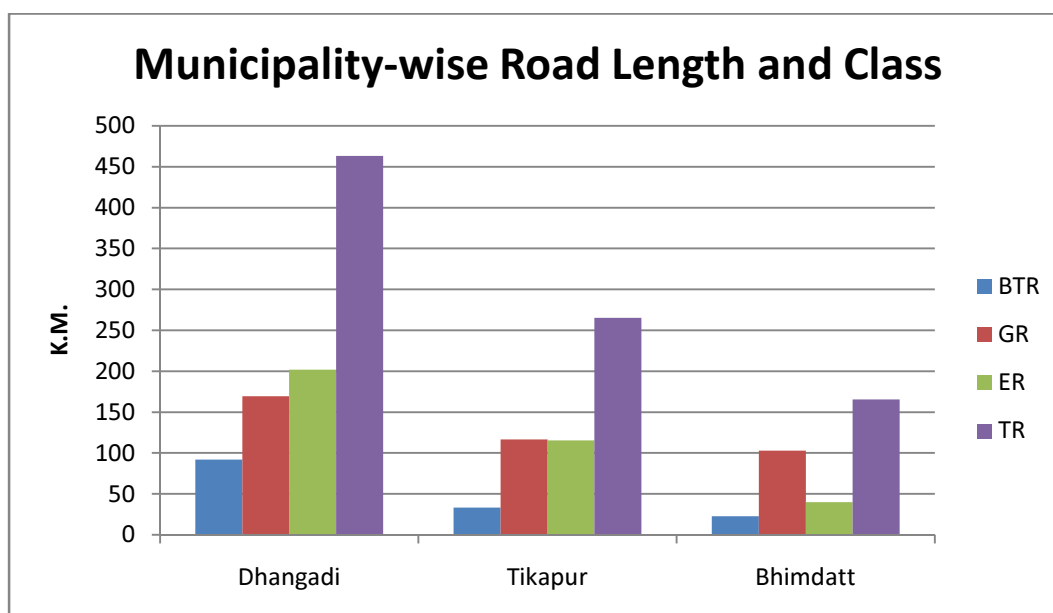


Figure 3.1.

According to the above data, the total length of roads is 894.21 Kilometers in urban areas of Far-Western Terai. Dhangadi Municipality has the highest share in road length with 463.4 Kilometers (51.8%). Tikapur Municipality has 265.31 Kilometers (29.6%) and Bhimdatt Municipality has 165.5 Kilometers road length.

Likewise, Dhangadi has the highest mileage of better quality roads, Black Topped Road (BTR) and Gravelled Roads (GR) with 92 Kilometers and 169.4 Kilometers respectively. Also, there is the highest length of Earthen Road (ER) with 202 Kilometers than other Municipality.

Tikapur Municipality has 33.11 Kilometers BTR, 116.69 Kilometers GR and 115.51 Kilometers ER. Bhimdatt Municipality has the lowest length of Roads. There is the lowest position in all class of roads. The BTR is 22.5 Kilometers, GR is 103 Kilometers and ER is 40 Kilometers.

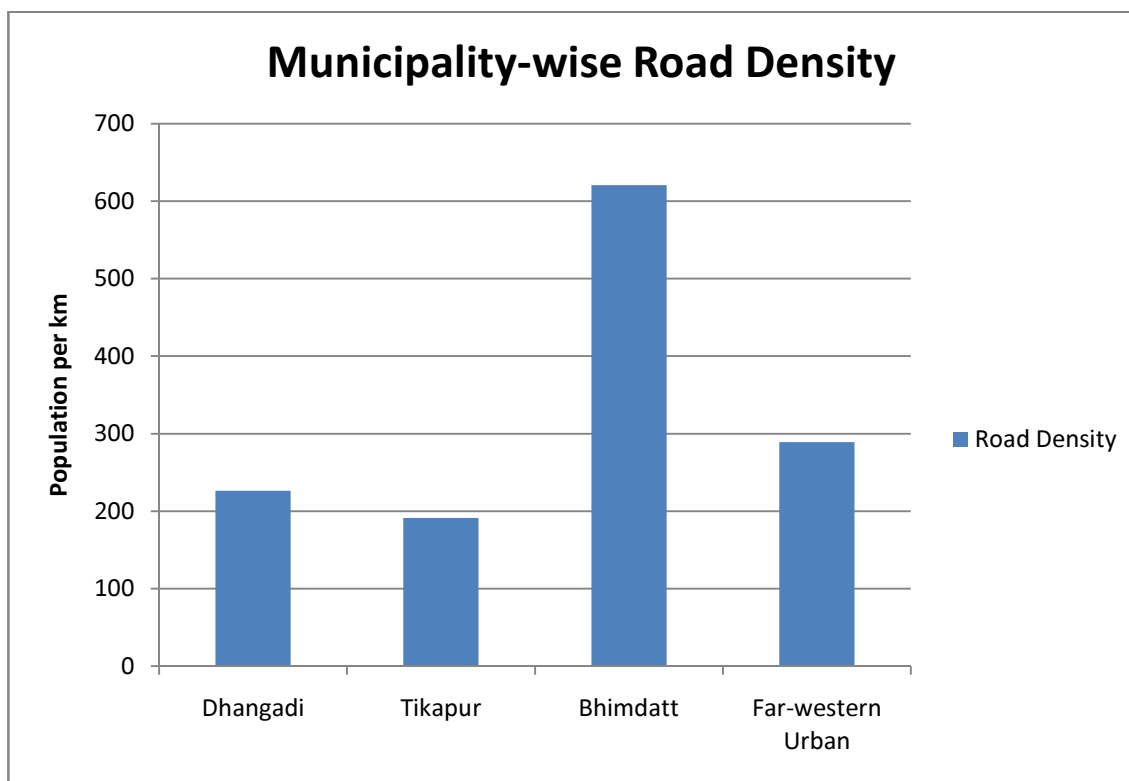
Road Density

Road density measures the road accessibility with respect to influenced area. Here, the road density has been defined as the road length per square Kilometers of area.

Table 3.2: Municipality-wise Road Density

Municipality	Population	Road Length(km.)	Road Density*(population per km.)
Dhangadi	104801	463.4	226.15
Tikapur	50782	265.31	191.40
Bhimdatt	102762	165.5	620.91
FWT urban	258345	894.21	288.9

Source: CBS - 2011, and Municipality Record – 2072



Figure

3.2.

The data shows that the road density in urban areas of Far-Western Terai is 288.9 persons per square Kilometers. Bhimdatt Municipality has the highest road density with 620.91 persons per square Kilometers. Dhangadi has 226.15 persons per square

*Road Density = Total Population/Total Road Length in km.

kilometer and Tikapur has the lowest road density which is 191.40 persons per square kilometers.

3.1.2. Drinking Water Facilities

Man's prime need in his/her environment is water and whenever a number of people live together in a community, a supply of water is required for drinking and household, irrigation, industrial and other uses. Once a water body is tempered with by human beings for whatever resources, it will be bound to lose its natural relatively pollution free quality and becomes contaminated. With the increase in world's population, industrialization, urbanization and conversion of forest land into agricultural land and human settlement area, the volume of contaminated water is increasing. The quantity of water required for drinking and cooking purposes is estimated to be about 5 liters per person per day (Tabbutt, 1974). The total amount of water available in the world is constant that is, like energy, it can either be increased or diminished. About 95% of the total water of earth is in the Oceans and 4% remains frozen in the polar region. The remaining 1 percent is in the form of fresh water in the hydrological cycle including the ground water reserves. (Harrison,1993). Safe/clear drinking water is one of the determinants of social and economic process. Many of the under developed countries have faced the problem of clear drinking water.

Access to safe water is a significant issue in developing countries. According to a WHO report, around 70 million people globally do not have access to adequate water sources. (WHO, 2012)

Access to water is an essential aspect of people for good health, sanitation and other development aspect of the country. It is mentioned in the Interim Constitution of 2007, Nepal, that access to water is a fundamental right of people.

Households collect water for drinking and cooking purpose from different sources. The sources may vary with seasons and also differ by location. The households sample survey information was collected from only one usual sources of drinking water. The following categories of drinking water sources are used in the study area. Definitions of all these categories are: Public tap/Piped, Private taps/Piped, Hand Pump and Kuwa etc.

Table 3.3: Sources of Drinking Water in Urban Area of Far-Western Terai

Sources of Drinking Water	Number of HHs	Per cent
Public taps	13	3
Private	52	12
Hand Pump	331	76
Kuwa	1	0.33
Others	38	8.7

Source: Field survey 2070

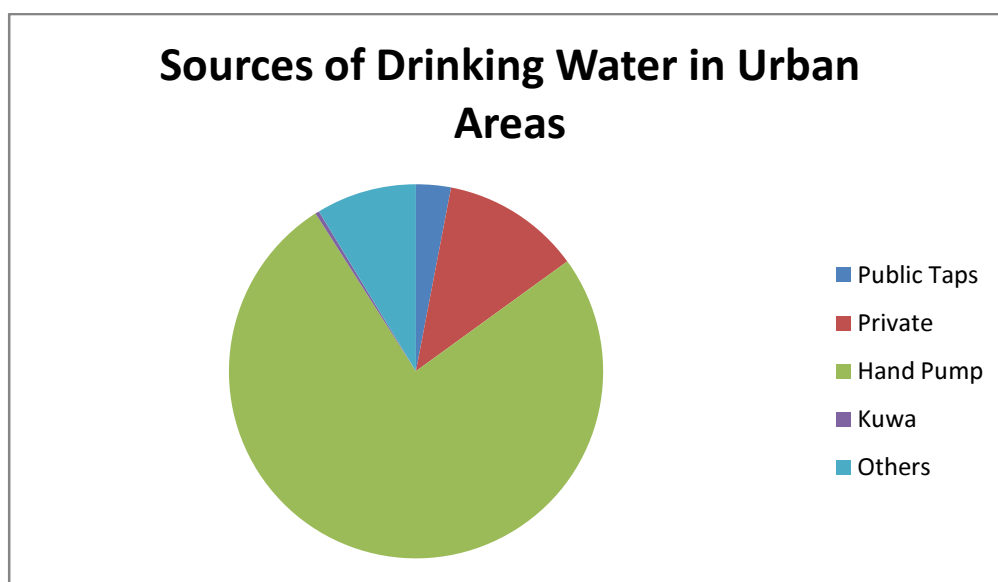


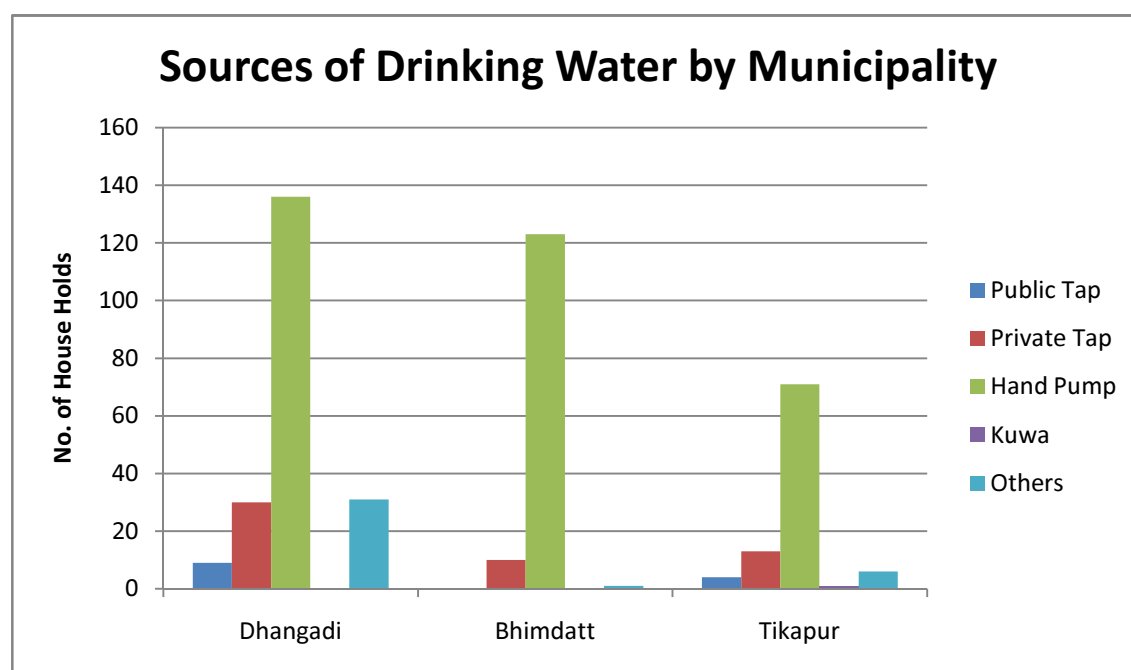
Figure 3.3

The table shows that 76% of urban households use the hand pump for the source of drinking water. Only 15% of total households have access to piped water (tap). The others category covers mainly rivers, ponds and lakes. About 8.7% of households are using other category for drinking water which may be unhygienic and probably the source for a number of diseases.

Table 3.4: Distribution of Sampled Households by Various Sources of Drinking Water by Municipality

Municipality	HHs	Public Tap		Private Tap		Handpump		Kuwa		Others	
		HHs	%	HHs	%	HHs	%	HHs	%	HHs	%
Bhimdatt	206	9	4.36	30	14.5	136	66	0	0	31	15
Tikapur	95	4	4.21	13	13.6	71	74.1	1	1.05	6	6.3
Dhangadi	134	0	0	10	7.46	123	91.7	0	0	1	0.74

Source : Field survey 2070



Figure

3.4.

The above table distribution of sampled households by main sources of drinking water is not homogenous across the three municipality of Far-Western Terai.

Of the total sampled households of Bhimdatt Municipality, 66% households use hand pump, 18.86% households use taps (private and public) and rest 15% of households use other sources of drinking water. In Tikapur Municipality, about 74.7% of household's source of drinking water is hand pump. The public taps and private taps are also used by 4.21% and 13.6% of households respectively. Only 1.05% of household's use Kuwa and remaining 6.3% of households use other sources of drinking water in this Municipality. Nearly, 91.7% of sampled households of

Dhangadi Municipality use hand pump as the source of drinking water, while only 7.46% of households use private taps. The remaining 0.74% of households uses other sources of drinking water.

From the above data analysis it is revealed that most of the households used handpump as sources of drinking water in Far-Western Terai region. Comparatively, supply water which is more safer than the other sources of drinking water but with respect to safe drinking water, the urban drinking water situation in Far-Western Terai is not satisfactory. A large proportion of households use hand pump as drinking water and its safety or purity is unknown.

3.1.3. Air Transport Facilities

Nepal has been developing airlines network to connect all the important service centres as well as the remote areas of the country (Ghimire,1998) Air transport is more expensive than land transport. Still air transport plays a vital role in the integration of Nepal's far-flung districts into the national main stream.

A look at the distribution of airports in Far-Western Terai reveals one airport in each Municipality of this region. The following table shows, details of information about the surface of airport, airport types, category of airports.

Table 3.5: Division of Airports in Far-Western Terai

District	Name of airport	Surface type					Airport type		Category of airport			Remarks
		Asphalt	Gravel	Grass	Sand	Clay	Dt.	Domestic	High traffic	Meduimtraffic	Lowtraffic	
Kailali	Tikapur			✓				✓			✓	No flights
Kailali	Dhangadi	✓						✓			✓	2 flights/day

Kanchanpur	Mahendranagar			✓				✓			✓	No flights
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Source: Field Survey and observation 2011

3.1.4. Electricity

The power sector is another important element of the modern economy especially in urban centres. The statuses of electrification in different Municipality of Far-Western Terai have been analyzed by taking the number of electricity connections as given by sample households. There are four sources of lighting in urban households, which are electricity, kerosene, biogas and solar.

Electricity is the main source of lighting in urban households but no Municipalities had 100% of households using electricity as their main source of lighting. Electricity is one of the indicators to show the situation of urban facilities. Many Municipalities show a typical rural character with their poor electricity coverage in respect of electricity facility. Electricity as a source of energy has a dimensional effect in the economy and so to the households. Basic facilities like lighting, heating and cooking are easily accessible through the supply of electricity. Therefore, the availability of electricity is not only the indicator of people's wellbeing but also that supports in the important of the living standards of people.

Table 3.6: Municipality-wise Status of Electricity Facilities

Municipality	Total HHs	Number of household			
		Use of electricity	%	No electricity	%
Dhagadi	134	120	89.5	14	10.44
Tikapur	95	69	72.6	26	27.36
Bhimdatt	206	185	89.8	21	10.19
FWT	435	374	85.97	61	14.02

Source: Field survey 2011

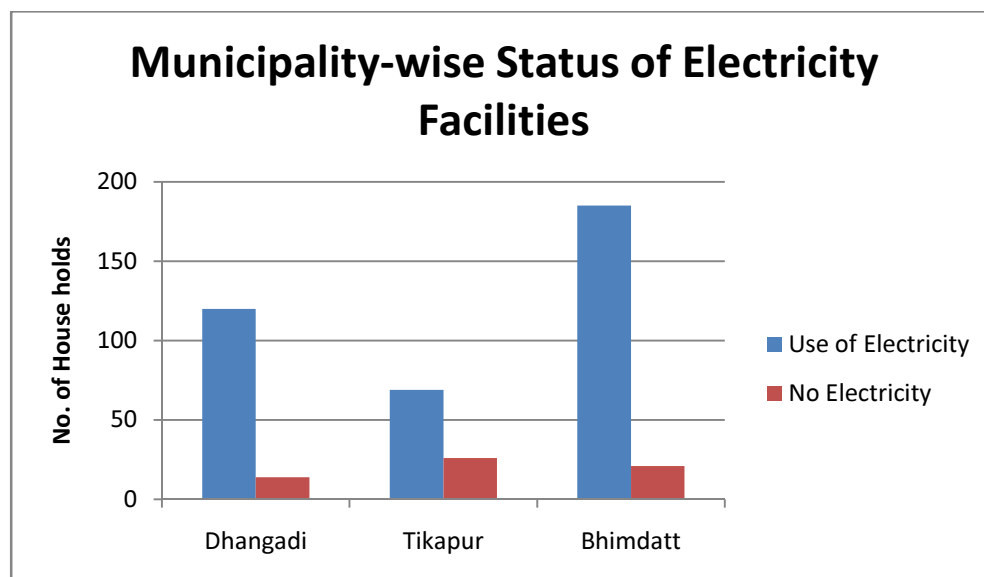


Figure 3.5.

From the above, 85.97 percent of households have using electricity facilities and 14.02 percent of households have not using electricity facilities in Far-Western Terai of urban area. Municipality wise Dhangadi and Bhimdatt Municipalities have better coverage of electricity facilities than Tikapur Municipality.

In Bhimdatt and Dhangadi Municipalities there are more than 89% of households which have the access of electricity and Tikapur Municipality has 72.6% of households using electricity. Comparatively, this Municipality has low status of electricity facilities than others.

3.1.5. Sewerage Service

Following is the sewerage service condition of Municipalities.

Table 3.7: Urban Sewerage Services by Municipal

Municipality	Length of Sewerage with Municipalities (in km.)			
	Major Sewerage	Minor Sewerage	Nali	Total
Dhangadi	1.2	0	14.58	15.78
Tikapur	0	0	4.5	4.5
Bhimdatt	0	0	3.0	3.0
Total	1.2	0	22.08	23.28

Source: Environment Statistics of Nepal, 2011.

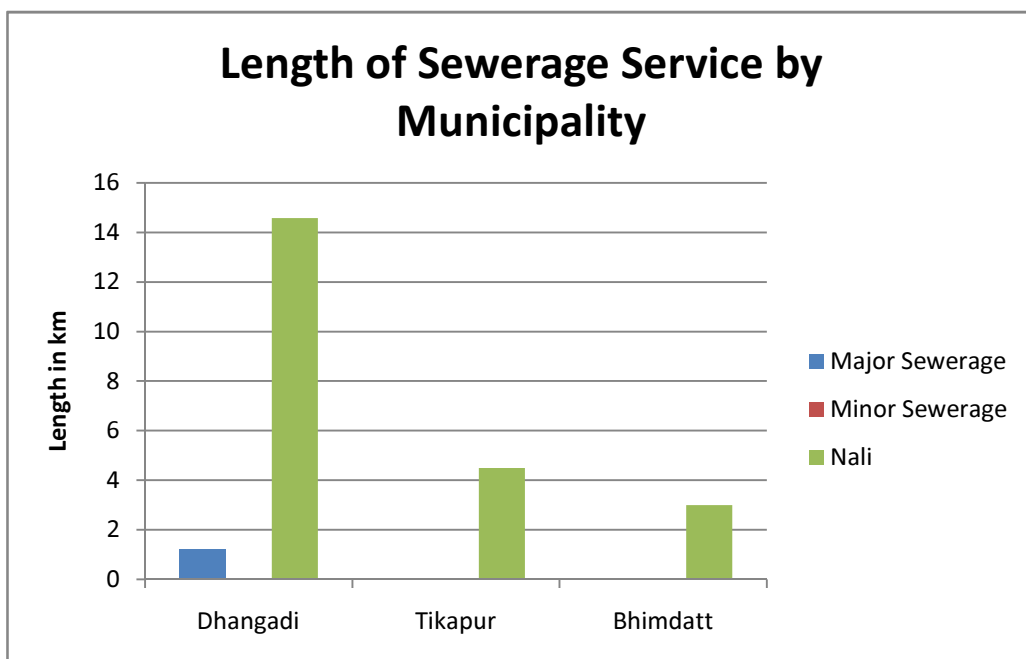


Figure 3.6

In the table the major sewerage service is only in Dhangadhi where there is only 1.2 Km long. There are only gutters, Nali as sewerage in other Municipalities. Dhangadhi has 15.78 Km gutter, in Tiapur 4.5 Km & in Bhimdatt Municipality; there is only 3 Km gutter. This can be clarified in the above table.

3.1.6. Communication Facilities

Communication facility is following & developing as an essential human need. It holds the vital position in the list of urban facilities. The condition of communication facility in Municipalities of Far-west Terai can be discussed below.

Table 3.8: Number of Telephone and Related Facilities

Municipality	Landline	CDMA	CDMA mobile	GSM mobile	ADSL	Total
Dhangadi	7003	5267	14937	116169	1028	144405
Tikapur	1242	1592	2499	44724	181	50238
Bhimdatt	4967	3897	20338	84320	988	114510

Source: Nepal Telecom, Regional Office, Attraiya, 2011.

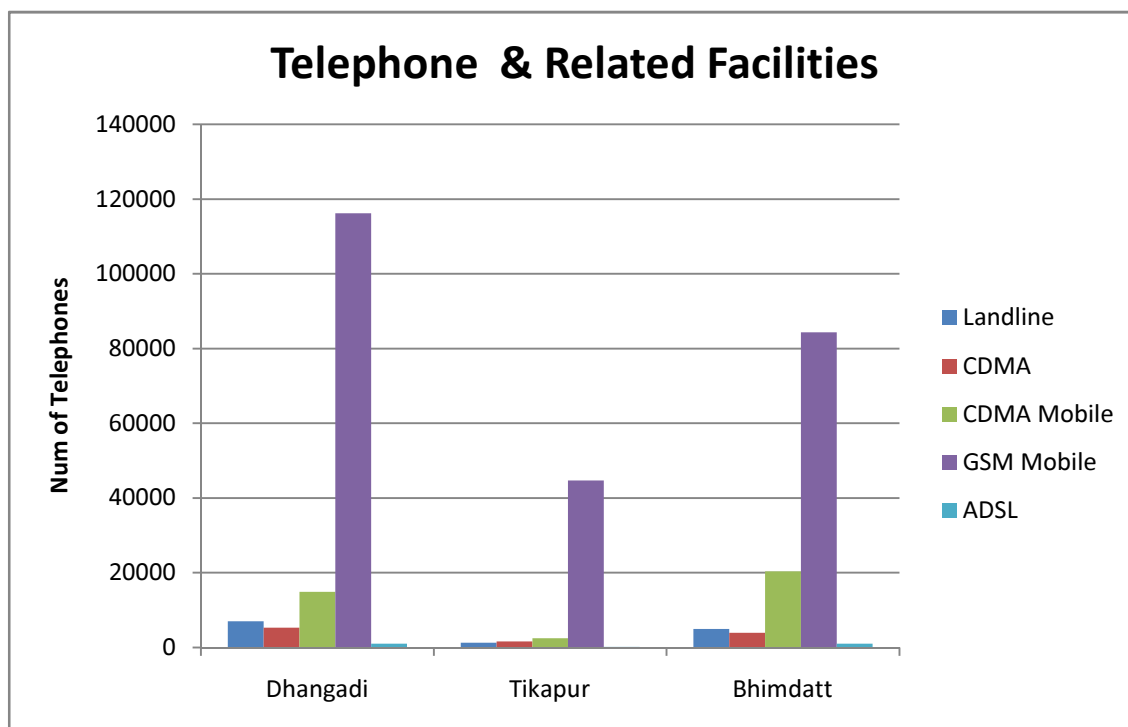


Figure 3.7

Telephone is an important means of communication. The telephone facility in Dhangadhi is better in comparison to others. There are 144405 subscriber of telephone facility in all. Likewise, there are 114510 distributed telephone lines in Bhimdatt Municipality and 50238 lines in Tikapur. There are different telephone facilities provided by Nepal Telecom, landline, CDMA line, CDMA mobile, GSM mobile and ADSL servicer. Ncell, Smart telecom etc. are some private companies providing communication services.

The followings are some additional communication services entertained in Dhangadhi, Bhimdatt&Tikapur Municipalities.

Table 3.9: Municipality-wise Other Communication Facilities

Means of Communication	Dhangadi	Tikapur	Bhimdatt
Post office	1	1	1
Cable line	2	2	2
News paper	12	6	9

Postal Service	3	3	3
FM Radio	8	4	7

Source: Municipality Records, 2011

In Dhangadi, there are 8 FM radios in Bhimdattnagar 7 FM Radios & Tikapur has 4 FM radio stations. In the print media, Dhangadi publishes 12 newspapers, Bhimdattnagar 9 & from Tikapur 6 newspaper & magazine are published.

3.2. Socio-Economic Infrastructure

3.2.1. Educational Facilities

Amenities and facilities are basic requirements for the people. The existing amenities and facilities indicate whether the region is developed or still developing.

The rural areas are not much developed so they do not have modern facilities because their requirements are different and they do not have enough money circulation to utilize. In both the urban and rural areas, the educational institutions are being provided by the private and government organization. The educational institutional facilities which account for basic services in the field of education have been chosen from a much broader section of amenities and facilities. In the present study, various facilities provided by the government and the private organizations are considered. The aspects analyzed and discussed in this chapter are different types of educational institutions like schools, higher schools, campuses, technical institutions, universities etc. in the Municipality areas.

Table 3.10: Municipality-wise Number of Educational Institutions

Description	Dhangadi			Tikapur			Bhimdatt		
	Government	Private	Total	Government	Private	Total	Government	Private	Total
School	23	63	86	20	21	41	41	59	100
Higher Secondary	6	10	16	4	5	9	12	11	23
Campuses	-	5	5	-	2	2	2	5	7
Madarsh		2	2						

Technical education	1	2	3	-	-	-	-	5	5	
Universities	-	-	-	-	-	-	1	-	1	Total
Total	38	82	112	24	28	52	56	89	136	300
Percentage	-	-	37.3%	-	-	17.3%	-	-	45.3	100%

Source: District Education Office of Kailali and Kanchanpur 2011

According to the above table and figure, there are 136 (45.3%) educational institutions in Bhimdattnagar, 112 (37.3%) educational institutions in Dhangadi and 52 (17.3%) educational institutions in Tikapur out of 300 educational institutions in the study area of Far-Western Terai.

The educational institutions are of different categories such as schools, higher secondary schools, campuses, madarsha, technical education institutions and universities.

Bhimdatt Municipality has the highest number of educational institutions compared to other Municipalities. It has one university, 100 schools, 23 higher secondary schools, 7 colleges and 5 technical educational institutions. Dhangadi Municipality ranks second in the educational aspect. There are 86 schools, 16 higher secondary school, 5 campuses, 2 technical educational institutions and 2 madarsha here.

Among the 300 educational institutions, 190 are private which amounts to 63 % of total institutions of urban areas. Understandably, Private educational institutions play a dominant role in the educational sector in this area.

The above mentioned analysis concludes that the number, varieties and nature of educational institutions is comparatively better in Bhimdattnagar than other cities. It can be said that Bhimdattnagar is the leading Municipality among them from the perspective of educational facilities.

Bhimdattnagar has a number of good schools, college, technical educational institutions and other educational centres. Far-Western University, one of the newly established universities is also located in this Municipality. The schools, colleges, technical institutions and university are providing educational facilities not only to the urban people but also the rural people from the other hill and mountain districts. Colleges and university are the most important educational institutions to provide the higher education facilities.

3.2.2. Health Facilities:

Health facilities are the fundamental needs to human development in urban areas. Municipality wise health facilities of Far-Western Terai are as follow:

Table 3.11: Municipality-wise Number of Health Institutions

Health Institutions	Dhangadi	Tikapur	Bhimdatt
Zonal Hospital	1	-	1
Eye Hospital	1	1	1
Primary Health Centre	-	1	-
Sub Health Post	2	-	1
Zonal Aurbedic	1	-	1
Private Hospital	3	-	4
Medical Stores	29	16	35

Source: District Public Health Office of Kailali and Kanchanpur, 2011.

Comparing the Municipalities, in Dhangadhi&Bhimdatt, there are one zonal hospitals and number of medical stores & private hospitals. In Tikapur Municipality, there is a primary health centre. In the above mentioned table, the health facilities in Dhangadi are far better than that of Tikapur. The health condition in Dhangadhi Municipality is better than that of other in terms of the comparison of available specialist's physicians & number of nurses.

Table 3.12: Municipality-wise Health Workers

Municipality	Population (2011)	MD		MBBS		Nurses	
		No. of Doctors	Per Doctor population	No. of Doctors	Per Doctor population	No. of Nurses	Per Nurses population
Dhangadi	104801	5	20960	6	1746	17	6164
Tikapur	50782	0	0	1	50782	13	3906

Bhimdatt	102762	0	0	1	102762	14	7340
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Source: CBS, 2011 and District Public Health Office of Kailali and Kanchanpur, 2011

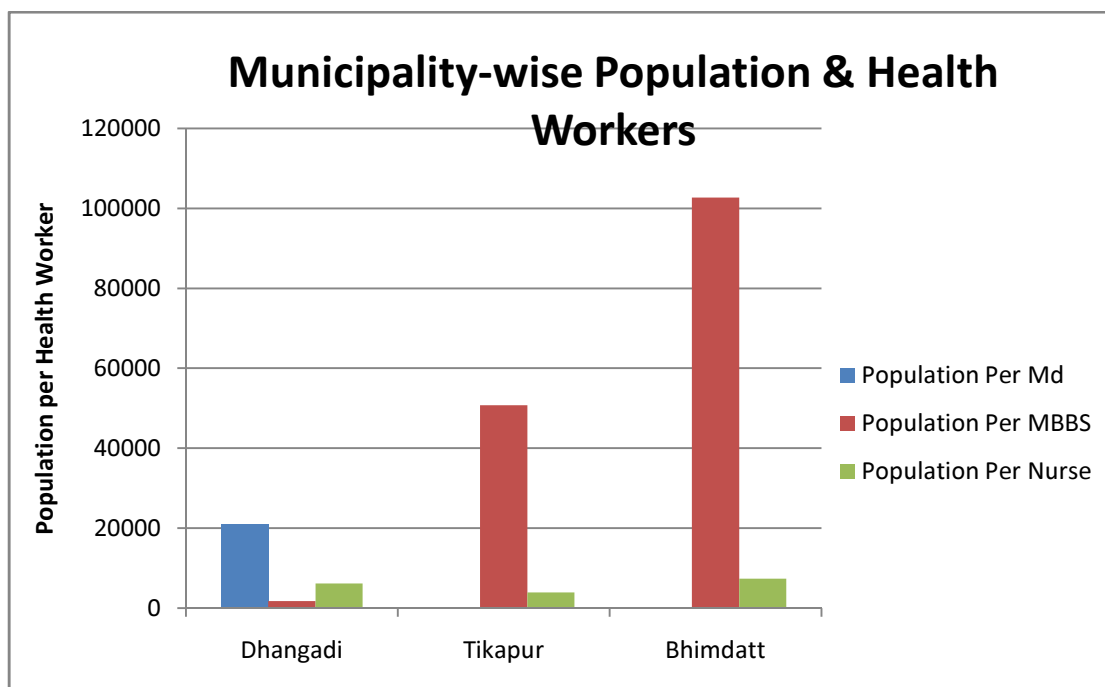


Figure 3.8

There is no specialist (MD) working in the hospitals as the records of Tikapur and Bhimdatt hospitals. Moreover there is only one MBBS doctor working in each. In the Seti Zonal hospital in Dhangadhi, there are five specialist (MD) & six MBBS doctors working. But the numbers of nurses in all these hospitals are reasonable there: in Dhangadhi there are 17 nurses, in Bhimdattnagar 14 & in Tikapur 13 nurses are working.

When we compare the population of 2011, with the number of health workers, there is one specialist doctor for 20160 people in Dhangadhi Municipality whereas there is no specialist doctor at all in other Municipalities

Similarly, there are 1776 people for an MBBS in Dhangadhi, 56782 in Tikapur and 102760 people in Bhimdatt Municipality. From this statistics, Dhangadhi falls in better health facilitated area. Meanwhile, the specialist facilities in the private clinics are rising up along with the government's decision to establish a medical college in Dhangadhi.

3.2.3. Administrative Facilities

On the basis of administrative facilities the condition of Municipalities in this region is as following.

Table 3.13: Municipality-wise Number of Administrative Office

Categories of Office	Dhangadi	Tikapur	Bhimdatt
Regional level Office	30	-	3
Zonal level Office	4	-	8
District level Office	43	-	58
Municipality level Office	2	6	2
Total Office	79	6	72

Source: District Administrative Record of Kailali and Kanchanpur, 2011.

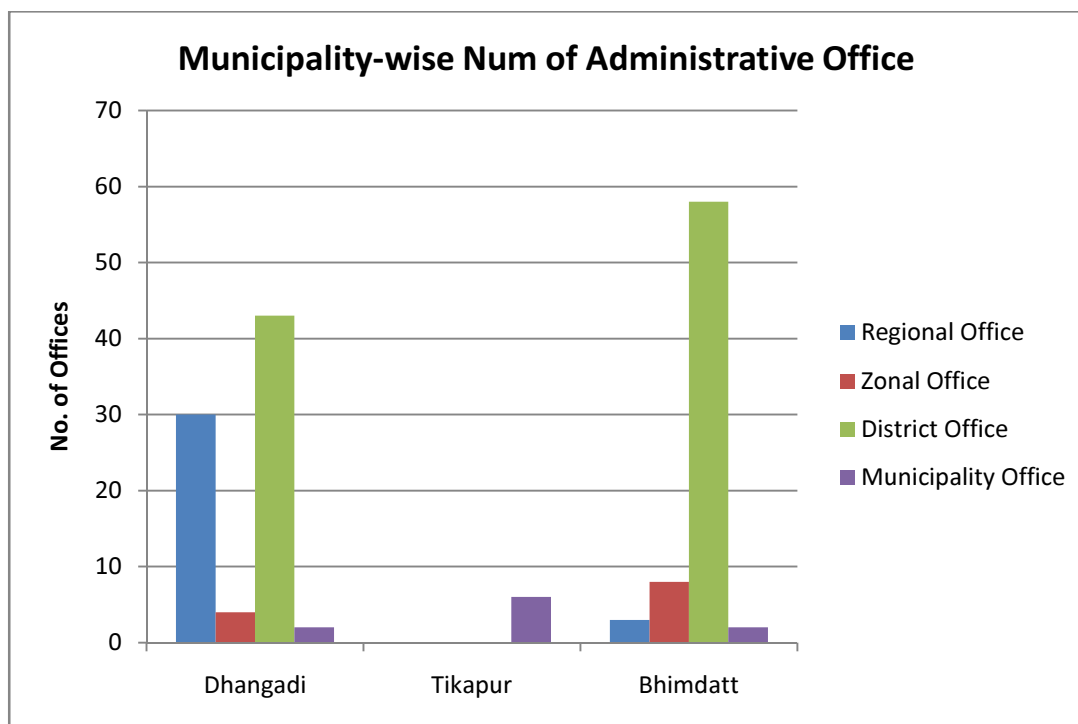


Figure 3.9

There are different government administrative offices in national, regional, zonal, district & municipal levels in this region. On the basis of numbers of administrative offices, there are 79, 72 and only 6 offices respectively in Dhangadhi, Bhimdattnagar & Tikapur. Dhangadhi is found

as the regional administrative centre according to the level of administrative authority. In addition to this, there are 43 district-level & 4 zonal offices. It is the district & zonal Headquarter of Kailali District & Seti Zone respectively.

In Bhimdatt Municipality also there are 8 zonal & 3 regional offices since it is Zonal Headquarter of Mahakali Zone. As the district Headquarter, it has 58 district level offices. There are no regional & district-level offices in Tikapur since it is a small city in the eastern part of Kailali district. It only contains 6 municipal level offices.

According to this analysis, Dhangadhi lies in the first, Bhimdattnagar in the 2nd and Tikapur in the 3rd number in the order of administrative facilities.

3.2.4. Financial and Commercial Institutions.

Banks are the main financial & commercial institutions. Their presence matters the financial & commercial condition of a particular area.

Table 3.14: Municipality-wise Number of Banks in Far-Western Terai

Class of Banks	Municipalities in Far-Western Terai		
	Dhangadi	Tikapur	Bhimdatt
Central Bank	1	-	-
A-Class	24	5	11
B-Class	6	1	3
C-Class	1	1	-
D-Class	1	2	2
Co-operative	1	2	-
Total Banks	34	11	16

Source: Nepal Raste Bank, 2014.

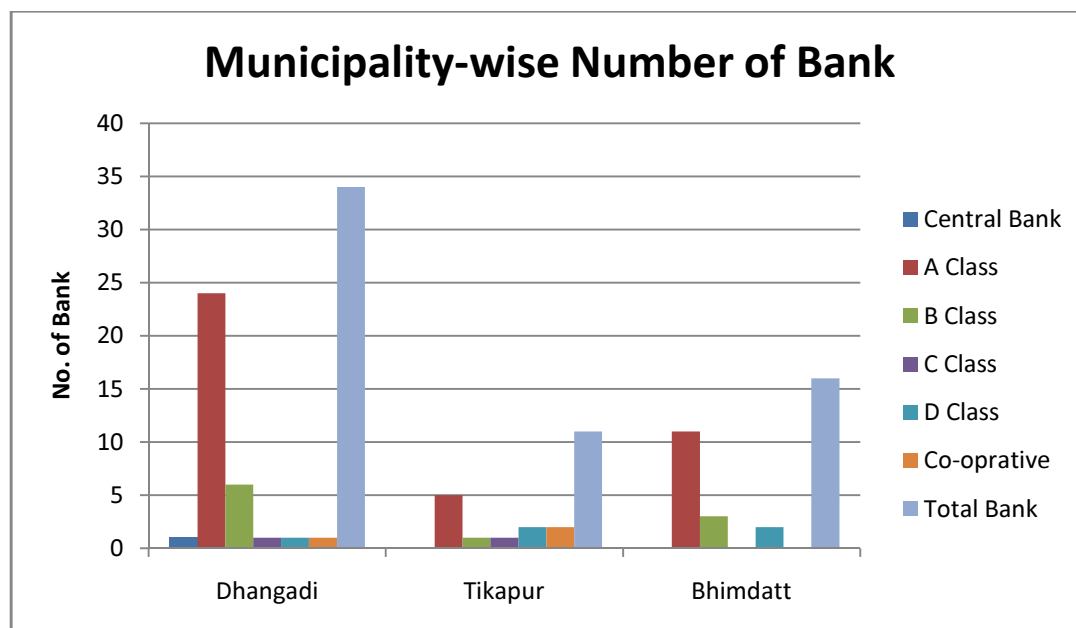


Figure 3.10

Minimum Criteria of Classification of Banks and Financial Institutions in Nepal by Rastra Bank are following.

3.15, Criteria of Classification of Banks and Financial Institutions in Nepal

S.No.	Class of Bank or Financial Institutions	Minimum required Paid up Capital	Level and Area
1	A-Class	Rs.200 crore	National
2	B-Class	Rs. 64 crore	National and Regional
3	C-Class	Rs 30 crore	National and Regional
4	D-Class	Rs 10 crore	Districts
5	Co-operative	Less than Rs. 1 crore	Local

Source: Nepal Raste Bank2014

The numerical condition of the banks in the Far-west Terai shows that Dhangadhi Municipality has the highest numbers of the banks: one central bank (Nepal Rastra Bank), 24 A-class banks, 6 B-class banks & one each c-class bank and Co-operative finance. In Bhimdatt Municipality, there are 16 financial institutions in all including 11 A-class bank, 3 B-class bank and 2 D-class banks.

In Tikapur Municipality, there are 5 A-class bank, 3 B-class bank & 2 D-class banks.

Dhangadhi seems to be the financial & professional centre in terms of the number & class of the banks. Out of all, 55.7% banks are situated in Dhangadhi, 18% are in Tikapur & 27.3% banks are in Bhimdatt Municipality.

3.3. Functional Weightage and Hierarchy of Municipality

The hierarchy of Municipality can be illustrated on the basis of urban activities & facilities in study area. The comparison of eleven facilities (education, health, administrative, finance, road, airport, electricity, communication, sewerage and drinking water) in the Annex II (vide page number 222 to 224) shows that Dhangadhi Municipality is in first number in most of the respects. Bhimdattnagar & Tikapur Municipality fall in the 2nd and 3rd class respectively. Only on the basis of educational facilities, drinking water & electricity facility, Bhimdatt Municipality holds the first class including the size or population Whereas Dhangadhi & Tikapur are serially in 2nd & 3rd class.