

Gross State Domestic Product of Dadra and Nagar Haveli

*Sponsored by
Government of Dadra and Nagar Haveli*

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Chapter 1: Introduction

1.1 Introduction

The Union Territory (UT) of Dadra and Nagar Haveli (DNH) is unique. While viewed as a land of pristine beauty and tribal mystery (Bande, 2002), its economy is dominated by registered manufacturing¹. The Dadra & Nagar Haveli government website describes it as ‘endowed with nature's munificence, it's a land of spell-binding beauty... green forests, winding rivers, unimaginable waterfronts, gentle gurgle of streams, distant dotting mountain ranges, a gorgeous kaleidoscope of flora and fauna...’². At the same time the UT is heavily industrialised with registered manufacturing, on average, accounting for 87.1 per cent of its total Gross State Domestic Product (GSDP) between 2008–09 and 2012–13.

Located in the western part of the country, it is one of the seven union territories of India. The two separate pieces of land—Dadra and Nagar Haveli—came together to form a single territory on 17th December 1779 as a result of a treaty between the Portuguese and the Marathas. The Portuguese ruled this territory until its liberation on 2nd August 1954. After its liberation, the administration was carried on by a local body known as the Free Dadra and Nagar Haveli Administration until its merger with the Indian Union on 11th August 1961. Since then, it has remained as a centrally administered area (Union Territory) under the Ministry of Home Affairs. The Portuguese influence and the UT's natural beauty are evident from the name of its capital, Silvassa, which is derived from the Portuguese word ‘silva’ meaning ‘woods’³. To this day, that description stands true with 41.8 per cent of the UT's land under forests as of March 2013⁴.

The area of Dadra & Nagar Haveli is spread over 491 square kilometres (km²) and is landlocked between Gujarat in the north and Maharashtra in the south. In terms of area it is the fifth smallest state/UT in India and in terms of population it happens to be the third smallest state/UT with 0.34 million people in 2011 (Census 2011), which accounts for 0.03 per cent of the all-India population⁵. As per the latest Census 2011, 52 per cent of its population are Scheduled Tribes⁶. This number has come down significantly from 62 per cent in 2001.

The main objectives of this report are to first calculate its GSDP for the five years starting from 2008–09 to 2012–13 as mandated by the UT Administration of Dadra and Nagar Haveli. The second objective is to use the calculated GSDP to identify the opportunities and challenges and the third objective is to recommend a path forward.

¹ Bande, U. 2002. Dadra and Nagar Haveli: A date with pristine beauty and tribal mystery. *The Tribune*. <http://www.tribuneindia.com/2002/20020929/spectrum/travel.htm>. September 29.

² Dadra and Nagar Haveli website. <http://www.dnh.nic.in/about-dadra-and-nagar-haveli.aspx>.

³ Bhatt, S.C. and G.K. Bhargava. 2006. *Land and People of Indian States and Union Territories: Dadra and Nagar Haveli*. Vol. 32. Kalpaz Publications. New Delhi.

⁴ Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. *Socio-Economic Development of Dadra and Nagar Haveli since its Liberation (2012-13)*. November 2.

⁵ Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://censusindia.gov.in/>.

⁶ Chandramouli, C. 2013. *Census of India 2011, Primary Census Abstract: Data Highlights, India, Series 1*. Office of the Registrar General and Census Commissioner of India.

http://www.censusindia.gov.in/2011census/PCA/PCA_Highlights/pca_highlights_file/India/Chapter-2.pdf. Chapter 2.

The economic analysis and the recommended strategy are based on the unique geography, history, culture and demography of DNH.

1.2 Geography⁷

DNH is landlocked and surrounded by Gujarat and Maharashtra. It is located in western India between the parallels of 20° 0' and 20° 25' north and between the meridians of 72° 50' and 73° 15' east (Figure 1). The two separate geographical units –Dadra and Nagar Haveli—form one district in the UT (Figure 2). Dadra is located to the north of Nagar Haveli, at a distance of less than 10 kilometres (km) and is an enclave surrounded completely by Gujarat. Overall, the UT is surrounded by the Valsad district of Gujarat except in the south and south-east where it (specifically Nagar Haveli) neighbours the Palghar district of Maharashtra. The UT is conveniently located, touching the Mumbai–Baroda–Delhi National Highway Number 8 (Western Express Highway), thereby making Mumbai easily accessible (180km). Daman is 30 km from Silvassa. The closest railway station is at Vapi, 18 km from Silvassa.

Figure 1.1: Location of Dadra & Nagar Haveli



Source: <http://www.mapsofindia.com>

⁷ The references for this section are from the following sources unless mentioned otherwise: Bhatt, S.C. and G.K. Bhargava. 2006. *Land and People of Indian States and Union Territories: Dadra and Nagar Haveli*. Vol. 32. Kalpaz Publications, New Delhi. UT Administration of Dadra and Nagar Haveli, Government of India website. <http://www.dnh.nic.in/about-dadra-and-nagar-haveli.aspx>.

Figure 1.2: Map of Dadra & Nagar Haveli



Source: <http://www.mapsofindia.com>

DNH is located on the western side of the foothills of the Western Ghats and has undulating terrain. The UT has hilly terrain (specifically Nagar Haveli) especially towards the northeast and east where it is surrounded by the ranges of the Sahyadri Mountains (Western Ghats). The central alluvial region of the land is almost plain and the soil is fertile. The landscape of Dadra is specifically plains. As mentioned before, 41.8 per cent of the total geographical area is covered with forests. The major river, Damanganga, and its tributaries criss-cross the UT and drain into the Arabian Sea at Daman.

1.3 Climate⁸

The average annual temperature ranges between 25 and 27.5 degrees Celsius. The average annual rainfall in the UT varies between 2,000 and 2,500 millimetres (mm) of rainfall. Of course, there is variation depending on the season. DNH is warm and humid during the summer months. In the peak of summer the temperature ranges from a maximum of 41 degrees Celsius to a minimum of around 27 degrees Celsius. It is humid but not so warm during the monsoon months of June–September, which witnesses the southwest monsoon. From November to March, temperatures range between 29 and 14 degrees Celsius.

⁸ The reference for this section is from the following source unless mentioned otherwise:
Bhatt, S.C. and G.K. Bhargava. 2006. *Land and People of Indian States and Union Territories: Dadra and Nagar Haveli*. Vol. 32. Kalpaz Publications, New Delhi.

1.4 History⁹

Not much is known about the history of DNH before the medieval period. Given that the history of Daman and Diu is very similar to DNH during this time, we borrow from that report for the initial details¹⁰.

By the middle of the 13th century the Rajput prince, Ramasingh alias Ramasha of Udaipur, after losing his kingdom during the Muslim conquest of Rajasthan came down to the south. Historical evidence suggests that he defeated the *Koli* chief Nathoart belonging to the Thorat tribe of *Kolis* and established himself in a hilly retreat at Asheri or Asserseta near Daman about 1263 A.D.¹¹. By 1295 A.D., the Emperor of Delhi, Allauddin Khilji, had conquered Gujarat from the Chalukyas of Anhilwad and also the Deccan from the Devagiri Yadavas. The reign of Somashah, the son of Ramasingh, and his successors continued until the early part of the 15th century A.D. and they ruled from the newly founded state of Ramnagar. The territory of Nagar Haveli was part of this kingdom. It remained under Rajput rule until the Marathas conquered it in the mid-18th century.

The Marathas ceded Nagar Haveli in 1783 to the Portuguese after destroying one of their vessels. Two years later the Portuguese acquired Dadra, but skirmishes continued between the two. On 17 December 1779, the Maratha government assigned the aggregate revenue of 12,000 in a few villages of this territory to the Portuguese as compensation to ensure their friendship. As mentioned earlier, the Portuguese ruled this territory until 2 August 1954. After its liberation, the administration was carried on by a local body known as the Free Dadra and Nagar Haveli Administration until its merger with the Indian Union on 11th August 1961¹². Since then it has remained as a centrally administered area (Union Territory) under the Ministry of Home Affairs.

After liberation of the territory from Portuguese rule, a *Varishtha Panchayat*¹³ was working as an advisory body of the administration, which was however dissolved in

⁹ The reference for this section is from the following source unless mentioned otherwise: Bhatt, S.C. and G.K. Bhargava. 2006. *Land and People of Indian States and Union Territories: Dadra and Nagar Haveli*. Vol. 32. Kalpaz Publications, New Delhi.

¹⁰ NCAER and UT Administration of Daman and Diu. 2015. *Draft Report of Gross State Product of Daman and Diu*, Submitted to the Administration 30 October. The original sources for the information were:

Singh, K.S. 1994. *People of India: Daman and Diu*. Volume XIX. Popular Prakashan Pvt. Ltd. Mumbai.

Daman and Diu Electricity Department website. <http://dded.gov.in/index.php>.

¹¹The Koli people are historically an ethnic group native to Rajasthan, Himachal Pradesh, Gujarat, Maharashtra, Uttar Pradesh and Haryana states (Wikipedia).

¹² The Parliament formulated The Dadra and Nagar Haveli Act, 1961 on 2 September 1961 and it was enforced on the same date when the 10th Amendment was implemented. The Constitution of India was amended in 1961 by enacting The Constitution (Tenth Amendment) Act, 1961 which was implemented by retrospective operation on August 11, 1961. It was framed to embrace the 7th Union Territory by altering Schedule 1 within India known as Dadra and Nagar Haveli. The Act further amended Article 240(1) to add the said Union Territory. After the enactment, the Union Territory got account in the Indian Parliament. The governance of the territory also got Constitutional validity. The Administrator is appointed to the Union Territory as per Article 239 of the Indian Constitution with the power on the President to conduct the appointment.'

Source: Lawyerslaw.org website. <http://lawyerslaw.org/the-dadra-and-nagar-haveli-act-1961/>.

¹³ Translated this would be senior/superior village council.

August 1989 and Pradesh Council for Dadra and Nagar Haveli was announced. Subsequently, Dadra and Nagar Haveli District Panchayat and 11 Village Panchayats were constituted as per Constitutional amendments at the all-India level.

1.5 Culture¹⁴

1.5.1 Ethnic Composition

There are 14 major communities in the UT that include *Agri, Bharwad, Chamar, Dhodia, Dubla, Kahar, Kapadia, Kathodi, Kokna, Koli Dhar, Makrana, Mauri Rajput, Parsi* and *Varli* (as per the 1991 Census)¹⁵. Hindus formed 94 per cent of DNH in 2011 (Table 1.1). Hindus mainly include the following communities: *Agri, Bharwad, Chamar, Kahar, Kapadia* and *Mauri Rajput* (as per the 1991 Census).

Table 1.1: Religious Composition of Dadra and Nagar Haveli, 1961–2011

Religion	1961	1971	1981	1991	2001	2011
Hindu	97.6	95.8	95.6	95.5	93.5	93.9
Muslim	0.8	1.0	1.9	2.4	3.0	3.8
Christian	1.4	2.6	2.0	1.5	2.8	1.5
Sikh	0.0	0.0	0.0	0.0	0.1	0.1
Buddhist	0.0	0.1	0.2	0.1	0.2	0.2
Zoroastrian/Parsi	0.0	0.0	0.0	0.1	**	**
Jain	0.2	0.4	0.4	0.4	0.4	0.4
Other Religion	0.0	0.0	0.0	0.0	0.0	0.1
Religion not Stated	0.0	0.1	0.0	0.0	0.1	0.1

Sources: Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. *Socio-Economic Development of Dadra and Nagar Haveli since its Liberation (2012–13)*. Union Territory of Dadra and Nagar Haveli, Silvassa.

Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://censusindia.gov.in/>.

Scheduled Castes (SCs) form 1.8 per cent and Scheduled Tribes (STs) form 52 per cent of the total population as per the Census 2011. The four major SCs are *Chamar, Mahyavanshi, Bhangji* and *Mahar* as per the Census 2001. In 2001, *Chamar* were numerically the largest SC with a population of 1,554, constituting 37.9 per cent of the SC population of the UT. They were followed by *Mahyavanshi* 1,509 (36.8 per cent), *Bhangji* 433 (10.6 per cent) and *Mahar* 271 (6.6 per cent).

The share of STs has come down significantly from 62.2 per cent in 2001. As per the Census 2001, seven STs, namely, *Dhodia, Dubla, Kathodi, Kokna, Koli, Dhor, Naikda* and *Varli* make up this UT. Of the seven STs, *Varli, Kokna* and *Dhodia*

¹⁴ The data in this section have been compiled from the following two sources:
Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://censusindia.gov.in/>.
Singh, K.S. 1994. *People of India: Daman and Diu*. Volume XIX. Popular Prakashan Pvt. Ltd. Mumbai.

¹⁵ The data in this section have been taken from the following unless mentioned otherwise.
Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://censusindia.gov.in/>.

together constituted 97 per cent of the ST population of the UT in 2001. *Varli* were numerically the largest ST with a population of 90,847, constituting 66.2 per cent of the ST population of the UT, followed by *Kokna* 21,485 (15.7 per cent) and *Dhodia* 20,537 (15 per cent). The *Varli*, *Kokna* and *Koli Dhar* are said to be the original inhabitants of the UT before the arrival of the Rajputs (1991 Census). The STs have been notified in the UT under the Constitution (Dadra & Nagar Haveli) Scheduled Tribes Order, 1962. None of the STs have been notified with an area restriction.

1.5.2 Linguistic Composition

The UT has a rich mix of languages that reflects its historical culture. Bhili/Bhilodi, Gujarati, Konkani, Hindi and Marathi are the five major languages in the UT (1991 Census). *Varli*, Gujarati, Konkani, Dhodia, Hindi and Marathi are the six major mother tongues (1991 Census). As per the 1991 Census which quotes the *People of India, Volume III*, ‘the dialect spoken by the various tribes within the community members are Dhodi by the Dhodias, Dubli by the Dublas, Kathodi by the Kathodis, Kokni by the Koknas and Koli Dhars. Davar and Dungar Valis speak *Varli* with the influence of Gujarati and Marathi and Chamari by the Chamara. The Makransas speak Makrani which is similar to Baluchi. The Christians speak Portuguese’.

1.6 Demography

1.6.1 Population

Table 1.2: Population of Dadra and Nagar Haveli, 1901 to 2011

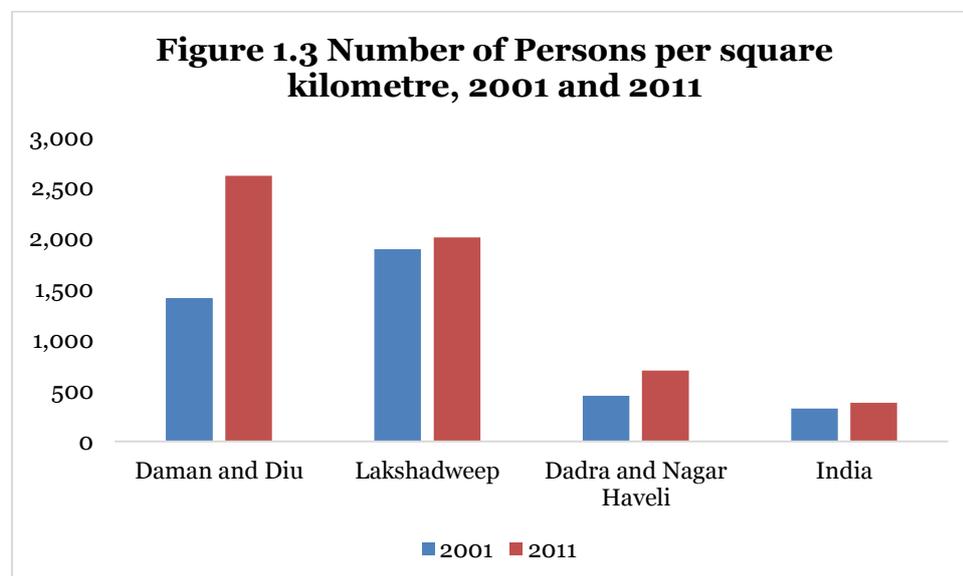
Year	India		Dadra and Nagar Haveli				
	CAGR (%)	Population per square km	Population (million)	Decadal Growth (%)	CAGR (%)	Share of India (%)	Population per square km
1901	N.A.	77	0.02	N.A.	N.A.	0.01	49.5
1911	0.6	82	0.03	19.5	1.8	0.01	59.1
1921	0.0	81	0.03	7.0	0.7	0.01	63.2
1931	1.0	90	0.04	23.2	2.1	0.01	77.9
1941	1.3	103	0.04	5.7	0.6	0.01	82.4
1951	1.3	117	0.04	2.7	0.3	0.01	84.6
1961	2.0	142	0.06	39.6	3.4	0.01	118.1
1971	2.2	177	0.07	28.0	2.5	0.01	151.1
1981	2.2	216	0.10	39.8	3.4	0.02	211.2
1991	2.2	267	0.14	33.6	2.9	0.02	282.0
2001	2.0	325	0.22	59.2	4.8	0.02	449.1
2011	1.6	382	0.34	55.9	4.5	0.03	700.0

Source: Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://censusindia.gov.in/>.

As mentioned earlier, DNH is the third smallest state/UT in terms of population. Until 1971, it formed only 0.01 per cent of India’s population, and only in 2011 did this number increase to 0.03 per cent (Table 1.2). The decadal growth shows steady increase after 1961 and shows particularly high growth in 2001 and 2011. Although the compound annual growth rate (CAGR) of the population of DNH far outstrips the

population growth of India, it has wavered through the decades. There is moderation of growth between 2001 and 2011.

Dadra and Nagar Haveli is ranked tenth in terms of number of persons per km². Although this is higher than for India, it is lower than for Daman and Diu (Figure 1.3).



Source: National Commission on Population, Ministry of Health and Family Welfare, Government of India website. http://populationcommission.nic.in/content/625_1_index.aspx

1.6.2 Sex Ratio

**Table 1.3: Sex Ratio Trend, 1961–2011
(number of females per 1,000 males)**

Year	India	Daman and Diu	Dadra and Nagar Haveli
1901	972	995	960
1911	964	1,040	967
1921	955	1,143	940
1931	950	1,088	911
1941	945	1,080	925
1951	946	1,125	946
1961	941	1,169	963
1971	930	1,099	1,007
1981	934	1,062	974
1991	927	969	952
2001	933	710	812
2011	940	618	774

Sources: National Commission on Population, Ministry of Health and Family Welfare, Government of India website. http://populationcommission.nic.in/content/625_1_index.aspx and Department of Planning and Statistics, U.T. Administration of Daman and Diu, Secretariat Daman. 2014. Statistical Diary 2013–14. August.

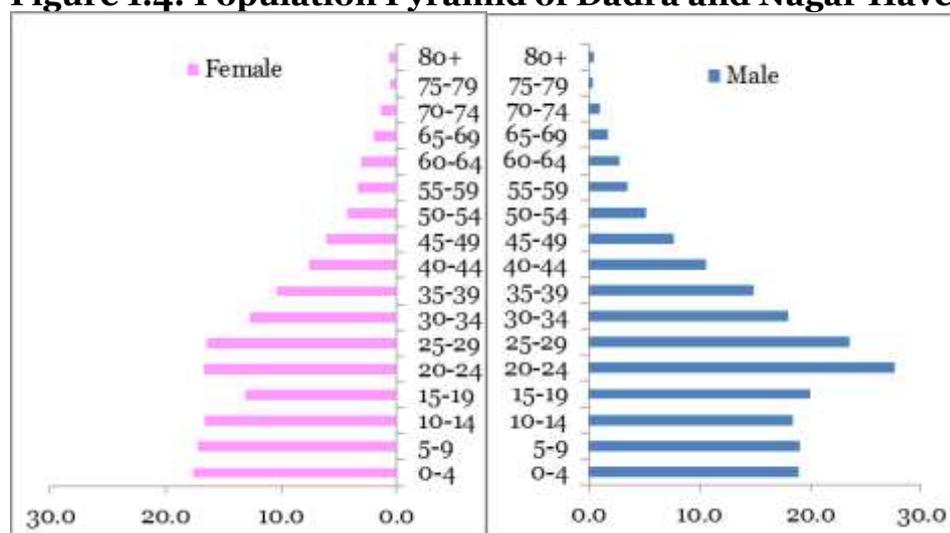
Among all the states and the UTs, DNH has the second worst sex ratio in the country after Daman and Diu. The sex ratio, i.e., the number of females per 1,000 males, has steadily deteriorated for the UT since 1971 (Table 1.3). Despite India showing improvement between 2001 and 2011, DNH worsens. The neighbouring districts in other states show better sex ratios than DNH. In the Valsad district of Gujarat, the sex ratio in 2011 was 922 females per 1,000 males. The Palghar district of

Maharashtra, which neighbours DNH, was carved out from the Thane district in Maharashtra in 2014. The 2011 Census for the Thane district in Maharashtra shows that the sex ratio in 2011 was 886 females per 1,000 males.

1.6.3 Age-wise Population

Figure 1.4 shows the skewed population pyramid for DNH. The skewed sex ratio discussed in the previous section is evident in this graph. The population of the UT is relatively young, with 54 per cent of the population below the age of 24 and 23 per cent of the population aged 15–24. In the age group 0–24, 56.1 per cent of the population is male men and 43.9 per cent are women.

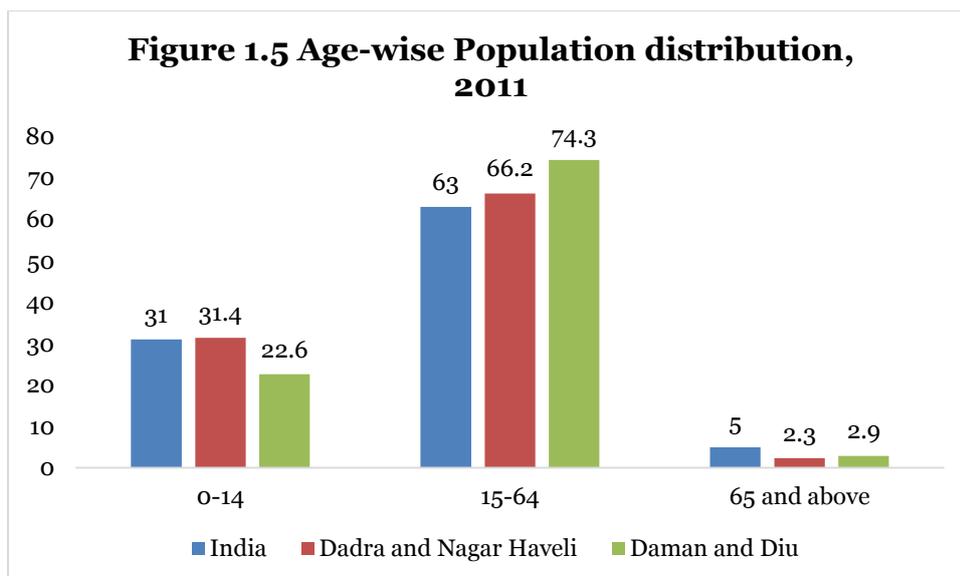
Figure 1.4: Population Pyramid of Dadra and Nagar Haveli, 2011



Note: The population figures are in thousands. The figures on the L.H.S of the panel are for females and on the R.H.S for males.

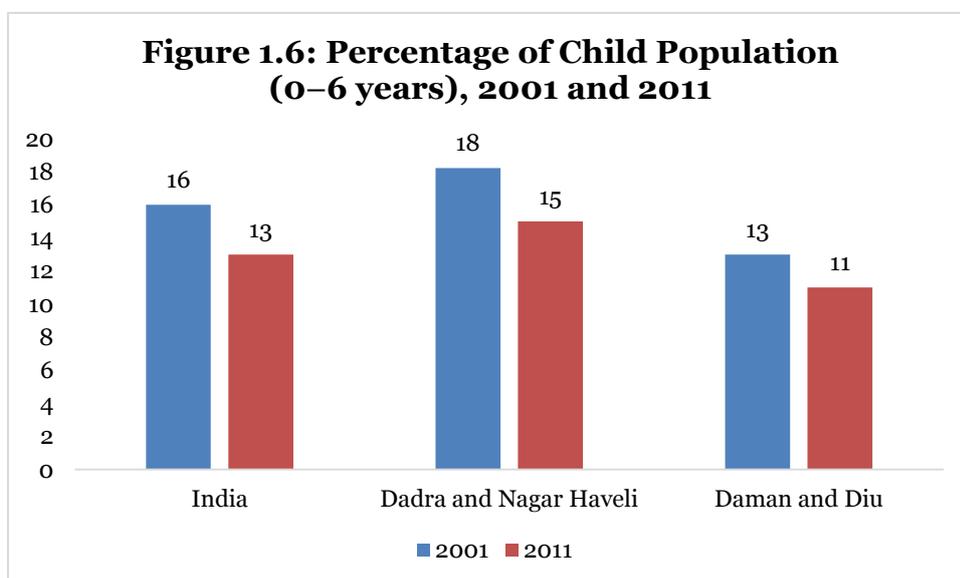
Source: NCAER computations from Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://censusindia.gov.in/>.

The dependency on the working-age population is shown in Figure 1.5. The DNH demographic structure is very similar to India, except that the percentage of the working population is higher in DNH than in India. The percentage of the population falling in the working age is higher in DNH (66.2%) versus Daman and Diu (74.3%). In DNH 35.3 per cent of the population is dependent on 66.2 per cent of the population, whereas in Daman and Diu, 23.5 per cent of the population is dependent on 74.3 per cent of the population. While dependency in the DNH is higher than in Daman and Diu, the 2011 numbers would suggest that Daman and Diu is slightly ahead of the demographic transition than DNH.

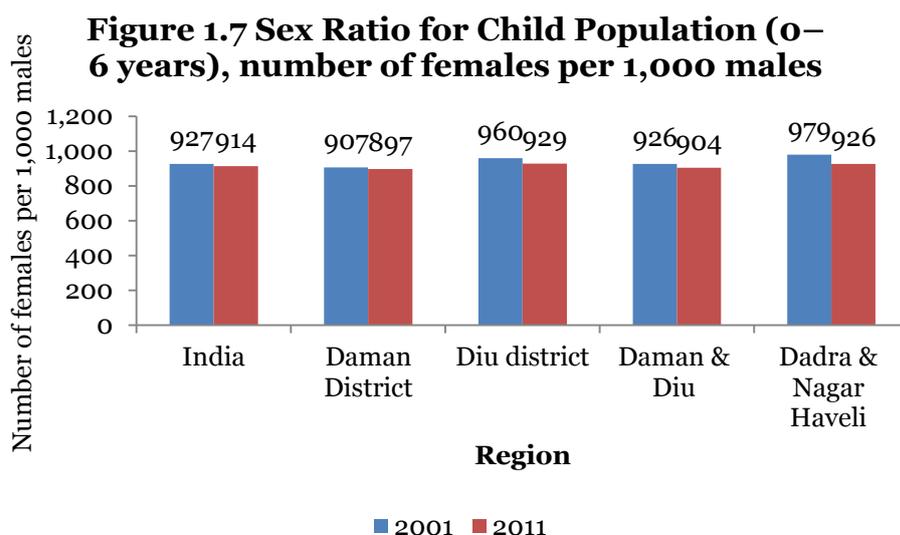


Source: NCAER computations from Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://censusindia.gov.in/>.

Figure 1.6 shows the percentage of child population and Figure 1.7 shows the child sex ratio. The percentage of children between the ages of zero to six has come down from 2001 to 2011 for DNH. This is higher than for both Daman and Diu and India. While the child sex ratio in DNH is better than in India and in Daman and Diu, the fall between 2001 and 2011 is more rapid than in either. The child sex ratio in DNH was 979 females per 1,000 males in 2001 and in 2011 this number was 926.



Source: NCAER computations from Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://censusindia.gov.in/>.



Source: NCAER computations from Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://censusindia.gov.in/>.

1.6.4 Urbanisation¹⁶

The urban population in DNH has grown at a CAGR of 12.3 per cent between 2001 and 2011. The percentage of urban population in DNH was 46.6 per cent in 2011 versus 22.8 per cent in 2001 (Figure 1.8). The state of urbanisation is higher than in India but lower than in Daman and Diu. DNH urbanisation status is more or less comparable to Diu in 2011.

The re-classification of villages as Census towns is one of the major reasons behind the growth of urbanisation in the UT^{17, 18}. In the 2011 Census, DNH had 65 villages and six towns forming a single district and single taluka. Five towns, namely, Dadra, Naroli, Samarvarni, Masat and Rakholi, were re-classified as Census Towns in 2011 while they were villages in the 2001 Census. 38.8 per cent of the urban population lives in Census towns with Naroli being the biggest Census town with 16,260 people. In the 2011 Census, Amlī and Silvassa census towns were merged and formed a new Silvassa Municipal Corporation as a Statutory Town¹⁹. Silvassa is the main urban

¹⁶ Unless mentioned otherwise, all the data used in this section have been taken from the following sources.

1. Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011 and Census 2001. <http://censusindia.gov.in/>.
2. Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. *Socio-Economic Development of Dadra and Nagar Haveli since its Liberation (2012–13)*. Union Territory of Dadra and Nagar Haveli, Silvassa.

¹⁷Places that satisfy the following criteria are termed as Census Towns (CTs): (a) A minimum population of 5,000; (b) At least 75 per cent of the male main working population engaged in non-agricultural pursuits; and (c) A population density of at least 400 per km².

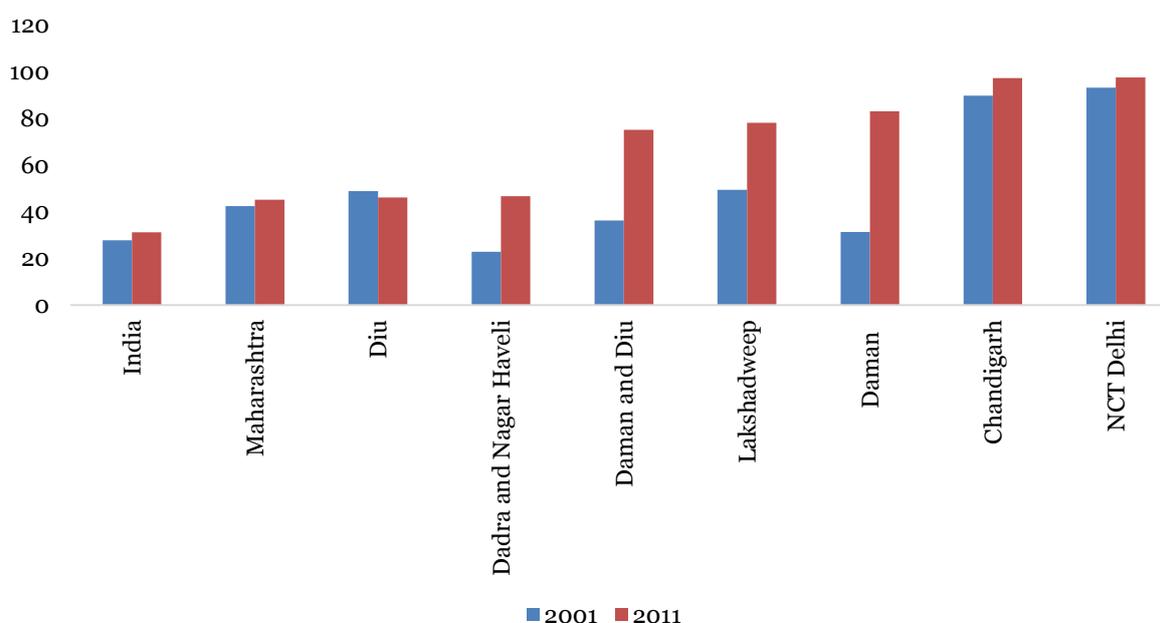
Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. http://censusindia.gov.in/2011-prov-results/paper2/data_files/kerala/13-concept-34.pdf.

¹⁸ Directorate of Census Operations, Dadra and Nagar Haveli. Census of India 2011: Dadra and Nagar Haveli. District Census Handbook: Dadra and Nagar Haveli. Series 27. Part 12-B.

¹⁹ All places with a municipality, corporation, cantonment board, or notified town committee etc. are statutory towns as per the Census 2011. http://censusindia.gov.in/2011-prov-results/paper2/data_files/kerala/13-concept-34.pdf

centre of DNH with 61.2 per cent of the urban population residing in that municipality. It is now a Class III city with a population of 98,265 people²⁰. The population density in Silvassa is 5,723 people per km², which is significantly higher than the population density of the whole UT at 700 per km² and more than double the density of Puducherry (2,598 people per km²).

Figure 1.8 Percentage of Urban Population, 2001 and 2011



Source: Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011 and Census 2001. <http://censusindia.gov.in/>.

1.6.5 Scheduled Castes and Scheduled Tribes

As mentioned before, SCs form 1.8 per cent and STs 52 per cent of total population as per the Census 2011. Table 1.4 shows the share in population and share of children of SCs and STs by rural and urban regions. In DNH (in 2011), 82.43 per cent of the rural population is ST and 0.71 per cent of the population belongs to SCs. In urban areas, 3.04 per cent of the population is SC and 17.2 per cent of the population is ST. In Dudhani and Mandoni Panchayats, 99.5 per cent of the population is ST. It is the lowest in Silvassa with 13.22 per cent of the population being STs. Notably, 56.4 per cent of children between the ages of zero to six are STs and 88 per cent of children in rural areas are STs.

As per the Census 2011, the sex ratio in rural areas was 863 per 1,000 males and 682 in urban areas (Table 1.5). The child sex ratio (0–6) was 970 in rural areas and 872 in urban areas. Overall, the sex ratio of the SCs is better than the total population and STs are better than SCs. In rural areas, the child sex ratio of SCs is the worst compared to the overall population and STs. Child-sex ratio is the worst in the urban areas in total population.

²⁰ Class 3 cities are cities with population between 20,000–99,999 people. http://www.censusindia.gov.in/2011-prov-results/paper2-vol2/data_files/AP/Chapter_IV.pdf.

Table 1.4: Share of Population of Scheduled Castes and Tribes, 2011

Social Group	Age Group	Total			Rural			Urban		
		P	M	F	P	M	F	P	M	F
SCs	All ages	1.8	1.7	1.9	0.7	0.8	0.6	3.0	2.7	3.6
	0–6	1.5	1.5	1.5	0.5	0.5	0.5	2.8	2.7	3.0
STs	All ages	52.0	45.9	59.8	82.4	76.3	89.5	17.2	14.5	21.2
	0–6	56.2	54.7	57.8	88.0	87.6	88.4	15.7	14.9	16.5

Note: P stands for persons. M stands for males and F stands for females.

Source: Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011 and Census 2001. <http://censusindia.gov.in/>.

Table 1.5: Sex ratio in Dadra & Nagar Haveli, 2011 (number of females per 1,000 males)

Population Groups	Ages	Total	Rural	Urban
All Population	All ages	774	863	682
	0–6 years	926	970	872
SCs	All ages	853	681	904
	0–6 years	954	944	957
STs	All ages	1010	1011	1002
	0–6 years	977	979	963

Source: Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011 and Census 2001. <http://censusindia.gov.in/>.

1.6.6 Analysis

DNH has witnessed rapid growth in population, more than double that of India. While overall density of the UT places it tenth in rank, the density of the capital city Silvassa is relatively high. Unlike the urban sprawl that characterises Daman, Silvassa has just grown bigger. However, there has been growth of Census towns as well. The population is relatively young and 56 per cent of the total child population between the ages of zero to six lives in rural areas. Urbanisation in the UT is higher than in India but relatively lower than in the Daman district of Daman and Diu.

DNH exhibits high population growth with a severely lop-sided sex ratio, especially in the 20–24 age group. Why is that happening? We see that a higher fertility rate and higher migration explain the rise in population. The combination of a falling child sex ratio and higher migration may explain the worsening overall sex ratio.

- The Total Fertility Rate (TFR) has dropped in the UT from 3.5 in 2003–05 to 3.4 in 2004–06 to 3.3 in 2005–07 (Table 1.6)²¹. It is still higher than overall India and even Daman and Diu. Rural TFR is higher than urban TFR. There is no firm downward trend over the years in either rural or urban areas. Both are significantly higher than overall India and the rural TFR shows a significant jump between 2003–05 and 2004–06. In urban areas the TFR

²¹The Total Fertility Rate (TFR) of a population is the average number of children that would be born to a woman during her reproductive age. According to the Registrar General (RGI), India the TFR has declined from 2.8 in 2006 to 2.4 in 2012, which accounts for a decline of more than 14%. The TFR in rural areas has declined from 3.1 in 2006 to 2.6 in 2012, whereas the corresponding decline in urban areas has been from 2.0 to 1.8 during the same period.

Source: Ministry of Health and Family Welfare, Government of India. 2013. *Health and Family Welfare Statistics 2013*. New Delhi.

increased from 2.4 in 2003–05 to 2.7 in 2004–06 before falling to 2.6 in 2005–07. In rural areas the TFR increased from 2.5 in 2003–05 to 3.6 in 2004–06 before falling to 3.5 in 2005–07. There is also a significant gap between the TFR of STs and the overall population²². It is clear that the higher fertility rate partially explains the growth in population in DNH.

Table 1.6: Total Fertility Rate, 2003 to 2009

Country/Union Territory	Year	Total	Rural	Urban
India	2005	2.9	3.2	2.1
	2006	2.8	3.1	2
	2007	2.7	3	2
	2008	2.6	2.9	2
	2009	2.6	2.9	2
Dadra & Nagar Haveli	2003–05	3.5	2.5	2.4
	2004–06	3.4	3.6	2.7
	2005–07	3.3	3.5	2.6
Daman & Diu	2003–05	2.1	1.6	1.9
	2004–06	2	2.2	1.8
	2005–07	1.9	2.1	1.6

Note: TFR for smaller states/UTs are based on three-year moving averages.

Source: Sample Registration System, Registrar General India via Ministry of Health and Family Welfare, Government of India. 2013. *Health and Family Welfare Statistics 2013*. New Delhi.

- The significant drop in the Child Sex Ratio (0–6) between 2001 and 2011 (Figure 1.7) explains the overall distorted sex ratio to an extent. For ages 7+, the sex ratio dropped from 779 in 2001 to 750 in 2011. We know from the discussion in the above section that the sex ratio is particularly distorted in the urban areas. The child sex ratio is below 1,000 for both SCs and STs in DNH.
- Migration increased between 2001 and 2007–08 (Table 1.7). Inter-state migrants also show an increase. We see high inter-state migrants and it is higher for males. Table 1.8 shows that 80 per cent of the migration is of less than five years duration for males.

²² Since approximately 52 per cent of the population is ST and the community has slightly different population dynamics, it is necessary to examine them as a group. However, the SRS does not publish data for SCs and STs separately for smaller states and UTs. Therefore, using Census 2011, we calculate the TFR from the Census. Unfortunately, the numbers do not match those of the SRS. The goal is here is to highlight the differences between the SCs, STs and overall population. NCAER computations from Census 2011 indicate that the TFR for all females between 15–49 is 2.2 It is 2.5 in rural areas in DNH and 1.9 in urban areas. Like the SRS, the Census shows a significant gap between rural and urban areas. For STs, the overall TFR is 2.4, rural TFR is 2.6 and urban TFR is 1.5. Since the majority of the ST population lives in rural areas, the overall average of STs is higher than the overall population. For SCs, the overall TFR is 1.9, rural TFR is 2.2 and urban TFR is 1.9. TFR is the highest for rural ST women.

Table 1.7: In-Migration (migration by last place of residence) as a percentage of Total Population, 2001 and 2007–08

Country	Type of Migrants	2001			2007–08		
		Persons	Males	Females	Persons	Males	Females
India	Total migrants	30.6	17.5	44.6	28.8	6.0	47.0
	Inter-state migrants	4.0	3.6	4.4	3.6	1.6	4.0
Dadra and Nagar Haveli	Total migrants	35.6	38.0	32.6	44.7	34.2	58.1
	Inter-state migrants	30.5	33.7	26.6	31.8	33.7	29.4
Daman and Diu	Total migrants	45.0	50.6	37.3	35.6	18.3	28.7
	Inter-state migrants	38.7	44.9	30.0	27.6	15.0	20.8

Sources: Census 2001 and NSSO 2007–08.

Table 1.8: In-Migration (migration by last place of residence) as a percentage of Total Migration Classified by Duration of Residence, 2007–08

Country	Duration ≤5 Years			Duration 5–10 Years			Duration >10 Years		
	P (%)	M (%)	F (%)	P (%)	M (%)	F (%)	P (%)	M (%)	F (%)
India	26.0	43.8	21.7	16.3	19.5	15.5	57.7	36.7	62.8
Dadra and Nagar Haveli	55.3	80.0	38.0	13.6	14.8	12.8	31.1	5.1	49.2
Daman and Diu	54.4	65.6	39.7	25.3	24.6	26.2	20.3	9.8	34.1

Note: P stands for Person, M for males and F for females.

Source: NSSO 2007–08.

1.7 Economy

1.7.1 GSDP Estimates and Economic Growth

The Gross State Domestic Product (GSDP) of Dadra and Nagar Haveli is shown in Tables 1.9 and 1.10, both in current and constant prices. The income statements and the methodology to calculate the GSDP and the various statements are shown in Annex 1. The sectors are discussed separately in subsequent chapters. Here we discuss the broad trends. Railways as a means of transport do not exist in the UT. The nearest rail stations are located in Gujarat for the UT. Mining activities also are very limited in the UT and there is no presence of mining in the GSDP map in the UT.

Table 1.9: Gross State Domestic Product of Dadra and Nagar Haveli, 2008–09 to 2012–13, ₹lakh at current prices

	<i>Sector</i>	<i>2008–09</i>	<i>2009–10</i>	<i>2010–11</i>	<i>2011–12</i>	<i>2012–13</i>
1	Agriculture, Forestry & Fishing	11,751	11,680	14,163	14,581	17,103
1.1	Agriculture	9,392	9,707	11,689	12,075	14,549
1.2	Forestry & Logging	2,312	1,912	2,400	2,427	2,468
1.3	Fishing	47	61	74	80	86
2	Mining & Quarrying	N.A.	N.A.	N.A.	N.A.	N.A.
3	Manufacturing	8,90,532	7,98,766	8,67,776	9,60,909	11,29,821
3.1	Registered	8,86,859	7,94,560	8,62,921	9,55,258	11,23,176
3.2	Unregistered	3,673	4,206	4,855	5,651	6,645
4	Electricity, Gas & Water Supply	1,747	7,092	18,421	17,936	21,047
5	Construction	6,745	6,785	7,917	15,774	18,130
6	Trade, Hotels & Restaurant	13,343	14,170	15,461	15,296	17,792
6.1	Trade	12,421	13,254	14,551	14,363	16,860
6.2	Hotels & Restaurants	922	916	910	932	932
7	Transport, Storage & Communication	6,080	7,376	8,426	10,448	12,787
7.1	Railways	N.A.	N.A.	N.A.	N.A.	N.A.
7.2	Transport by other means	3,224	3,809	4,698	6,171	7,683
7.3	Storage	52	63	76	94	112
7.4	Communication	2,804	3,504	3,652	4,183	4,992
8	Financing, Insurance, Real Estate & Business Services	20,706	23,300	28,169	33,543	38,633
8.1	Banking & Insurance	10,271	11,589	14,837	18,212	20,872
8.2	Real Estate, Ownership of Dwellings & Business Services	10,435	11,711	13,332	15,331	17,761
9	Community, Social & Personal Services	36,755	37,716	38,403	50,245	58,802
9.1	Public Administration & Defence	30,047	27,652	28,517	36,656	38,928
9.2	Other Services	6,708	10,064	9,886	13,589	19,874
10	Gross Domestic Product at factor cost (1 to 9)	9,87,660	9,06,885	9,98,735	11,18,732	13,14,115

Source: NCAER computations.

Table 1.10 shows that Dadra and Nagar Haveli formed 0.15 per cent of Indian GDP during the period 2008–09 to 2012–13. The growth rate of GSDP, after declining in 2009–10, has shown a steady and continuous increase. Per capita GSDP growth, however, was in negative territory until 2012–13.

Table 1.10: Gross State Domestic Product of Dadra and Nagar Haveli, 2008–09 to 2012–13, ₹lakh at constant prices (2004–05 prices)

	<i>Sector</i>	<i>2008–09</i>	<i>2009–10</i>	<i>2010–11</i>	<i>2011–12</i>	<i>2012–13</i>
1	Agriculture, Forestry & Fishing	9,461	7,863	9,026	8,533	9,453
1.1	Agriculture	7,435	6,317	7,095	6,619	7,555
1.2	Forestry & Logging	1,986	1,507	1,892	1,874	1,859
1.3	Fishing	40	40	40	40	40
2	Mining & Quarrying	N.A.	N.A.	N.A.	N.A.	N.A.
3	Manufacturing	6,99,978	6,27,758	6,37,384	6,57,829	7,30,373
3.1	Registered	6,96,919	6,24,386	6,33,727	6,53,865	7,25,929
3.2	Unregistered	3,059	3,372	3,657	3,964	4,445
4	Electricity, Gas & Water Supply	1,638	5,866	14,864	13,154	14,302
5	Construction	5,152	5,374	4,994	9,160	9,556
6	Trade, Hotels & Restaurant	10,440	9,666	9,757	8,881	9,292
6.1	Trade	9,706	9,020	9,162	8,325	8,792
6.2	Hotels & Restaurants	734	646	595	557	499
7	Transport, Storage & Communications	6,603	7,326	8,607	9,611	10,109
7.1	Railways	N.A.	N.A.	N.A.	N.A.	N.A.
7.2	Transport by other means	2,538	2,650	3,048	3,670	4,119
7.3	Storage	47	53	62	65	74
7.4	Communications	4,018	4,623	5,497	5,877	5,916
8	Financing, Insurance, Real Estate & Business Services	18,975	20,204	23,137	26,413	28,782
8.1	Banking & Insurance	10,843	12,266	14,772	17,548	19,535
8.2	Real Estate, Ownership of Dwellings & Business Services	8,132	7,938	8,365	8,865	9,247
9	Community, Social & Personal Services	28,603	26,217	24,359	29,478	31,286
9.1	Public Administration & Defence	23,452	19,275	18,078	21,488	20,737
9.2	Other Services	5,151	6,942	6,282	7,990	10,549
10	Gross Domestic Product at factor cost (1 to 9)	7,80,849	7,10,274	7,32,128	7,63,059	8,43,153
11	Share of Indian GDP (%)	0.19	0.16	0.15	0.15	0.15
12	Growth Rate of Dadra and Nagar Haveli GSDP (%)	N.A.	-9.0	3.1	4.2	10.5
13	Per-capita GSDP (₹ per capita)	2,53,787	2,20,825	2,17,735	2,17,080	2,29,450
14	Growth Rate of Per capita GSDP (%)	N.A.	-13.0	-1.4	-0.3	5.7

Source: NCAER computations.

Table 1.11 shows that manufacturing forms on average (2008–09 to 2012–13) 87.6 per cent of GSDP and within that it is registered manufacturing that forms 87.1 per cent of GSDP. The share of registered manufacturing, after declining since 2008–09, increased its share in 2012–13.

After registered manufacturing, the next biggest sector is community, social and personal services (2008–09 to 2012–13), which is 3.7 per cent of GSDP, followed by

real estate, ownership of dwellings and business services (3.1 per cent of GSDP). Within the former category, other services has steadily increased its share, although the average share is barely a per cent of GSDP. Within the latter category, it is banking and insurance that has increased its share during the period of our study and forms 1.9 per cent of GSDP.

Table 1.11: Shares of Gross State Domestic Product of Dadra and Nagar Haveli, 2008–09 to 2012–13

<i>Sector</i>		<i>2008–09</i>	<i>2009–10</i>	<i>2010–11</i>	<i>2011–12</i>	<i>2012–13</i>
1	Agriculture, Forestry & Fishing	1.2	1.1	1.2	1.1	1.1
1.1	Agriculture	1.0	0.9	1.0	0.9	0.9
1.2	Forestry & Logging	0.3	0.2	0.3	0.2	0.2
1.3	Fishing	0.01	0.01	0.01	0.01	0.005
2	Mining & Quarrying	0.0	0.0	0.0	0.0	0.0
3	Manufacturing	89.6	88.4	87.1	86.2	86.6
3.1	Registered	89.3	87.9	86.6	85.7	86.1
3.2	Unregistered	0.4	0.5	0.5	0.5	0.5
4	Electricity, Gas & Water Supply	0.2	0.8	2.0	1.7	1.7
5	Construction	0.7	0.8	0.7	1.2	1.1
6	Trade, Hotels & Restaurant	1.3	1.4	1.3	1.2	1.1
6.1	Trade	1.2	1.3	1.3	1.1	1.0
6.2	Hotels & Restaurants	0.1	0.1	0.1	0.1	0.1
7	Transport, Storage & Communications	0.8	1.0	1.2	1.3	1.2
7.1	Railways	0.0	0.0	0.0	0.0	0.0
7.2	Transport by other means	0.3	0.4	0.4	0.5	0.5
7.3	Storage	0.0	0.0	0.0	0.0	0.0
7.4	Communications	0.5	0.7	0.8	0.8	0.7
8	Financing, Insurance, Real Estate & Business Services	2.4	2.8	3.2	3.5	3.4
8.1	Banking & Insurance	1.4	1.7	2.0	2.3	2.3
8.2	Real Estate, Ownership of Dwellings & Business Services	1.0	1.1	1.1	1.2	1.1
9	Community, Social & Personal Services	3.7	3.7	3.3	3.9	3.7
9.1	Public Administration & Defence	3.0	2.7	2.5	2.8	2.5
9.2	Other Services	0.7	1.0	0.9	1.0	1.3

Source: NCAER computations.

Agriculture, forestry & fishing has almost maintained its share of GSDP at 1.1 per cent during the period of our study. Within that, agriculture is the dominator sector.

Table 1.12 shows that the growth of the UT is mainly driven by the dynamics of the growth of registered manufacturing. Double-digit growth in the latter also pushed up the growth of GSDP. Unregistered manufacturing also exhibits steady growth (average growth was 9.8 per cent) and its growth shows the least volatility (standard deviation 1.8). The standard deviation of growth of registered manufacturing was

8.9. Electricity, Gas & Water supply shows the highest average growth rate between 2009–10 and 2012–13, but also exhibits volatile growth (standard deviation 127.3). Similarly, the construction sector also exhibits high but volatile growth (standard deviation 41.8). Banking and insurance shows high double-digit growth throughout the period of our study. Except during 2010–11, other services show high double-digit growth.

Table 1.12: Growth Rate of Gross State Domestic Product of Dadra and Nagar Haveli, 2008–09 to 2012–13(%)

Sector		2009–10	2010–11	2011–12	2012–13
1	Agriculture, Forestry & Fishing	-16.9	14.8	-5.5	10.8
1.1	Agriculture	-15.0	12.3	-6.7	14.1
1.2	Forestry & Logging	-24.1	25.5	-0.9	-0.8
1.3	Fishing	0	0	0	0
2	Mining & Quarrying	N.A.	N.A.	N.A.	N.A.
3	Manufacturing	-10.3	1.5	3.2	11.0
3.1	Registered	-10.4	1.5	3.2	11.0
3.2	Unregistered	10.2	8.5	8.4	12.1
4	Electricity, Gas & Water Supply	258.2	153.4	-11.5	8.7
5	Construction	4.3	-7.1	83.4	4.3
6	Trade, Hotels & Restaurant	-7.4	0.9	-9.0	4.6
6.1	Trade	-7.1	1.6	-9.1	5.6
6.2	Hotels & Restaurants	-12.0	-7.8	-6.5	-10.3
7	Transport, Storage & Communications	11.0	17.5	11.7	5.2
7.1	Railways	N.A.	N.A.	N.A.	N.A.
7.2	Transport by other means	4.4	15.0	20.4	12.2
7.3	Storage	11.6	18.8	3.6	14.5
7.4	Communications	15.1	18.9	6.9	0.7
8	Financing, Insurance, Real Estate & Business Services	6.5	14.5	14.2	9.0
8.1	Banking & Insurance	13.1	20.4	18.8	11.3
8.2	Real Estate, Ownership of Dwellings & Business Services	-2.4	5.4	6.0	4.3
9	Community, Social & Personal Services	-8.3	-7.1	21.0	6.1
9.1	Public Administration & Defence	-17.8	-6.2	18.9	-3.5
9.2	Other Services	34.8	-9.5	27.2	32.0
10	Gross Domestic Product at factor cost (1 to 9)	-9.0	3.1	4.2	10.5

Source: NCAER computations.

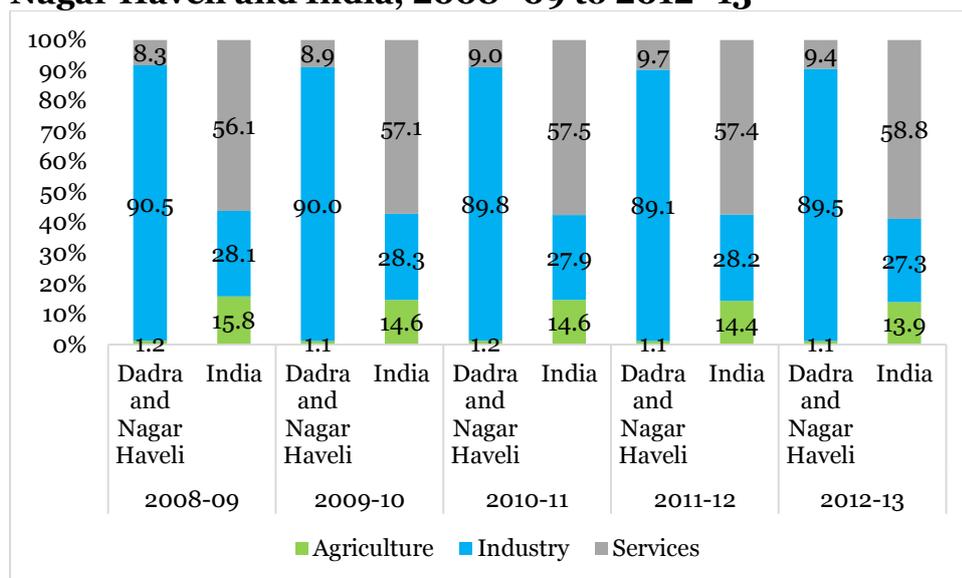
1.7.2 Structural Change

The structural change of economies in terms of sectoral shares of agriculture, industry and services in total GSDP gives an idea about the transformation of the economy²³. The economic history of developed economies show that they transformed from agricultural to industrial to service-oriented economies. India, in

²³ Memedovic, O. and L. Lapadre. 2009. Structural Change in the World Economy: Main Features and Trends. United Nations Industrial Development Organisation (UNIDO) Working Paper 24/2009, Vienna.

contrast to developed economies but similar to other developing countries, seems to have jumped from a largely agricultural economy to a services one. However, Dadra and Nagar Haveli, in contrast to the rest of India, is following the more traditional route of growth (Figure 1.9). The secondary sector is the largest sector in the UT, dominated by registered manufacturing. Few structural changes are seen during the period of our study. This stands in contrast to Daman and Diu where we see changes in its industrial structure even in the five-year period between 2008–09 and 2012–13.

Figure 1.9: Shares of Agriculture, Industry and Services (%) in Dadra & Nagar Haveli and India, 2008–09 to 2012–13



Notes: 1. GDP Factor Cost at 2004–05 prices is used for India to compute shares.

2. Agriculture and allied activities include agriculture, forestry and fishing. Industry includes manufacturing, mining, construction and electricity gas and water. Services include trade, hotels and restaurant, transport, storage and communications, financial, insurance, real estate and business services and community, social and personal services.

Source: NCAER computations.

Labour inputs in the sectors also have changed substantially (Table 1.13). Within seven years, the percentage of labour in agriculture has come down from 47.8 in 2004–05 to 27.7 per cent in 2011–12. Half the labour force is in the industrial sector. This stands in contrast to the rest of India. The share of the services sector has come down from 22.7 per cent in 2004–05 to 20.7 in 2011–12. Basically, labour from both agriculture and services has moved to industry.

Table 1.13: Labour Inputs across Sectors, 2004–05 and 2011–12

	<i>Dadra and Nagar Haveli</i>		<i>India</i>	
	<i>2004–05</i>	<i>2011–12</i>	<i>2004–05</i>	<i>2011–12</i>
Agriculture	47.8	27.7	62.6	49.7
Industry	29.5	50.4	16.8	26.0
Services	22.7	20.7	20.6	24.3

Note: Agriculture sector only shows the agriculture sector and not allied activities.

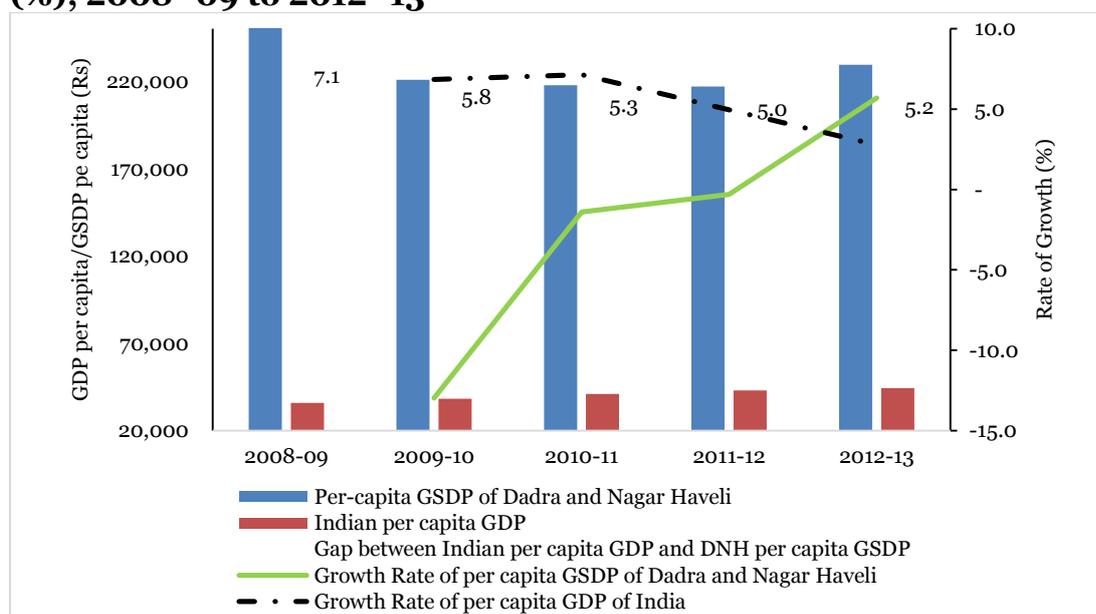
Source: NSSO.

Even with the latest numbers (2011–12), we know that relatively low labour productivity prevails in both the agricultural sector and the services sector. Approximately 27.7 per cent of the labour force is producing 1.1 per cent of the GSDP in the agricultural sector and 20.7 per cent of the labour force is producing 9.4 per cent of the GSDP in the services sector. In Dadra and Nagar Haveli 50.4 per cent of the labour force is devoted to producing 89.1 per cent of the GSDP. Individual sub-sectors within the broad sectors of agriculture, industry and services may show higher labour productivity and will be discussed in the individual chapters. Further, the productivity numbers have to be interpreted with caution as anecdotal evidence suggests that people travel to Dadra and Nagar Haveli from Gujarat on a regular basis to work in the UT. Those numbers are not accounted for in any available database.

1.7.3 Per capita Income

Figure 1.10 compares the per capita income of Dadra and Hagar Haveli. It also shows that the per capita income of the UT is on average 5.7 times higher than that of India for the period studied. Indian per capita GDP shows falling growth, while the UT's per capita GSDP shows higher growth. The gap in growth rates is especially high in 2012–13. Consequently, the gap between India and Dadra and Nagar Haveli after showing a reduction over the five-year period, increased again in 2011–12.

Figure 1.10: Per capita GSDP, Extent of Gap between India and Dadra and Nagar Haveli (Per capita GSDP/Per capita GDP) and Growth Rate (%), 2008–09 to 2012–13



Note: The values show the gap between Indian per capita GDP and per capita GSDP of Dadra and Nagar Haveli and has no line representing it.

Source: NCAER computations.

1.7.4 Labour

A brief overview of the labour market in the UT will help pinpoint a more inclusive growth strategy for the UT. Here, we are handicapped by the lack of data as the NSSO, the source of all labour data in India, has a relatively small sample size for the UT²⁴. Therefore, one would use the information more as ‘perceptions’ regarding the UT in this particular arena rather than as firm evidence.

1.7.4.1 Labour Participation

Table 1.14 shows the labour force participation rate (LFPR) across gender and regions over two time periods²⁵.

²⁴ To quote the NSSO, ‘while using the State/UT level estimates, it may be noted that the sample sizes for some of the smaller States/UTs may not be adequate enough for getting sufficiently reliable estimates for some of the employment and unemployment characteristics’.

²⁵ Labour force, or in others words, the ‘economically active’ population, refers to the population that supplies or seeks to supply labour for production and, therefore, includes both ‘employed’ and ‘unemployed’ persons. The estimate of the labour force in usual status (ps) gives the number of persons who either worked or were available for work for a relatively long part of the 365 days preceding the date of the survey. The labour force according to the usual status (ps+ss) is obtained by considering the usual principal status and the subsidiary status together. The estimate of the labour force in the usual status (ps+ss) includes (a) persons who either worked or were available for work for a relatively long part of the 365 days preceding the date of survey and (b) also those persons from among the remaining population who worked at least for 30 days during the reference period of 365 days preceding the date of the survey.

Source: NSSO.

Table 1.14: Labour Force Participation Rate for all ages and 15 years and above (principal plus subsidiary status, number of persons/ person-days in the labour force per 1,000 persons /person-days), 2004–05 and 2011–12

		Rural 2004–05			Rural 2011–12			Urban 2004–05			Urban 2011–12		
		M	F	P	M	F	P	M	F	P	M	F	P
LFPR	DNH	564	495	533	488	161	325	697	214	466	576	115	367
	Daman and Diu	592	168	403	694	34	425	671	233	428	595	152	357
	India	555	333	446	553	253	406	570	178	382	563	155	367
LFPR 15 and above	DNH	829	766	802	732	248	494	921	283	630	867	169	545
	Daman and Diu	864	226	566	924	52	595	790	290	518	805	220	502
	India	859	494	677	813	358	587	792	244	530	764	205	493

Notes: M stands for male, F for female and P for person.

Labour force participation rate (LFPR): LFPR is defined as the number of persons/ person-days in the labour force per 1,000 persons /person-days for all ages.

Labour force participation rate (LFPR 15 and above): LFPR is defined as the number of persons/ person-days in the labour force per 1,000 persons /person-days above 15 years of age.

Source: NSSO.

The key points from the table are:

- The LFPR for all ages is lower than the LFPR for ages 15 and above for both the UT and India, which makes intuitive sense.
- *2004–05 versus 2011–12*: The LFPR has unequivocally decreased for Dadra and Nagar Haveli between the two periods with no exception.
- *Dadra and Nagar Haveli versus India*: In 2004–05, the LFPR was higher than for India for all groups. In contrast in 2011–12 in rural areas, the LFPR was lower in DNH than in India. And in urban areas, the male LFPR was higher than in India, but female LFPR was lower. Overall, the LFPR was almost the same as India.
- *Dadra and Nagar Haveli versus Daman and Diu*: In 2004–05, the LFPR in the former was higher than in the latter. The significant exception was the female urban LFPR. In 2011–12, male LFPR was lower in Dadra and Nagar Haveli versus Daman and Diu, whereas the female LFPR was higher. Overall, the LFPR was lower in Dadra and Nagar Haveli versus Daman and Diu. The counter-intuitive result is due to the sex ratio. The number of females per 1,000 males is 774 in Dadra and Nagar Haveli versus 618 in Daman and Diu (Table 1.3).
- *Rural versus Urban*: In 2004–05, rural LFPR was higher than urban because urban female LFPR is higher in rural areas. Urban male LFPR was higher than rural for that year. These trends do not change in 2011–12 or for LFPR for ages 15 years and above. One significant exception is that the overall LFPR for ages 15 years and above is higher in urban areas in 2011–12 than in rural areas.
- *Male versus female*: The LFPR of males is higher than of females, which is similar to the rest of India. Except for female urban LFPR in 2011–12 in Daman and Diu, Dadra and Nagar Haveli outperforms the former in labour force participation rate.

1.7.4.2 Unemployment Rate

Unemployment rates have unequivocally improved between 2004–05 and 2011–12. And they are lower than in both India and Daman and Diu (Table 1.15).

Table 1.15: Unemployment Rate for all ages (principal plus subsidiary status, per 1,000 persons /person-days), 2004–05 and 2011–12

Region	Rural 2004–05			Rural 2011–12			Urban 2004–05			Urban 2011–12		
	M	F	P	M	F	P	M	F	P	M	F	P
Dadra and Nagar Haveli	31	36	33	0	0	0	13	91	30	0	0	0
Daman and Diu	3	0	3	0	0	0	28	33	30	0	22	5
India	16	18	17	17	17	17	38	69	45	30	52	34

Notes: M stands for male, F for female and P for person.

Unemployment Rate (UR): UR is defined as the number of persons/person-days unemployed per 1000 persons/person-days in the labour force (which includes both the employed and unemployed).

Source: NSSO.

1.7.4.3 Employment by Education

Table 1.16: Worker Population Ratio for 15 years and above by Education (principal plus subsidiary status, per 1,000 persons /person-days) 2004–05 and 2011–12

Region	Education Category	2004–05		2011–12	
		Rural	Urban	Rural	Urban
Dadra and Nagar Haveli	Not literate	877	566	523	316
	Literate and up to primary	759	679	620	376
	Middle	573	666	258	496
	Secondary	663	480	554	675
	Higher secondary	705	604	387	337
	Diploma/certificate course	716	780	1,000	734
	Graduate and above	819	542		
	Graduate			705	878
	Postgraduate and above			1,000	1,000
India	Not literate	672	472	580	429
	Literate and up to primary	710	561	648	539
	Middle	642	495	568	488
	Secondary	584	441	501	410
	Higher secondary	558	408	453	363
	Diploma/certificate course	729	707	659	592
	Graduate and above	725	595		
	Graduate			609	554
	Post-graduate and above			667	660

Note: Worker Population Ratio (WPR): WPR is defined as the number of persons/person-days employed per 1000 persons/person-days.

Source: NSSO.

The workforce in Dadra and Nagar Haveli (Table 1.16) is characterised by higher levels of educational attainment versus India. There is a stark contrast between the workforce that has attained a diploma/certificate in the UT versus India. Dadra and Nagar Haveli has shown significant improvement between 2004–05 and 2011–12. One significant change between the two periods is that in the urban areas the percentage of workforce with diplomas/certificates has gone down, while those with graduate, post-graduate and higher degrees have shown significant improvement.

1.7.4.4 Employment by Work Category

Unlike the Indian trends, quite a large share of the workforce in Dadra and Nagar Haveli is employed in the regular wage/salaried category especially in rural areas. There has been tremendous positive change between 2004–05 and 2011–12 in that regard (Table 1.17).

Table 1.17: Worker Population Ratio for 15 years and above by Employment Category (principal plus subsidiary status, per 1,000 persons /person-days), 2004–05 and 2011–12

Region	Employment Category	2004–05		2011–12	
		Rural	Urban	Rural	Urban
Dadra and Nagar Haveli	Self-Employed	427	375	391	163
	Regular wage/Salaried Employees	296	531	480	815
	Causal Labour	278	94	129	22
India	Self-Employed	602	454	559	420
	Regular wage/Salaried Employees	71	395	89	434
	Causal Labour	238	150	353	146

Note: Worker Population Ratio (WPR): WPR is defined as the number of persons/person-days employed per 1000 persons/person-days.

Source: NSSO.

1.7.4.5 Analysis

Dadra and Nagar Haveli shows negative growth in 2009–10 and then a slow recovery until 2012–13 when there is significant jump in growth. We also know that registered manufacturing forms approximately 90 per cent of the economy. Therefore, when registered manufacturing showed relatively slow growth between 2009–10 and 2011–12, intuitively it made sense that the LFPR went down between 2004–05 and 2011–12 (although we do not know the growth rate of the economy prior to 2009–10). As people unable to find jobs, leave the labour force (i.e., they have stopped looking for jobs), unemployment rates fall. However, the brunt of the slowed growth was borne by urban women, whose LFPR came down significantly between the two periods, 2004–05 and 2011–12. Female LFPR continues to be lower than that of India.

The dominance of the industrial sector in the economy means that the workforce is characterised by workers with a diploma/certificate and they hold regular wage jobs.

1.8 Infrastructure

1.8.1 Electricity

Census 2011–12 shows that 95.1 per cent of households use electricity as their main source of lighting²⁶. The corresponding numbers for rural and urban areas are 91.7 and 98.5 per cent, respectively. The ASER data shows that in rural Dadra and Nagar Haveli, the percentage of households with electric connection has gone up from 92.2 per cent in 2008 to 97.8 per cent in 2014²⁷.

1.8.2 Transport

There are no railways that run through Dadra and Nagar Haveli and it is a landlocked UT with no waterfront. The UT is served by Mumbai Airport in Maharashtra.

The total length of roads in Dadra and Nagar Haveli has increased from 66 km at the time of liberation (1954) to 809.552 km as of March 2013²⁸. 99.6 per cent of the road is surfaced. This translates into 1.6 km of road per square kilometre or 0.004 km per capita (using forecasted population data from 2011). There are no national highways in Dadra and Nagar Haveli, but there is 42 km of state highways. All the state highways are surfaced. Half of the standard highways (21km) are standard double lane and the other half is standard multi-lane (SML)²⁹. Dadra and Nagar Haveli had 768 km of other PWD roads in 2012–13, of which 765 km is surfaced. Of that 765km, 756km are standard single or below-standard single lane and 9 km are SML³⁰. All villages are connected with all-weather roads.

The number of registered motor vehicles has increased at a relatively faster pace than road length. Registered motor vehicles show a CAGR of 11.7 per cent between 2003 and 2013³¹. As of 31st March 2013, the UT had 93,000 registered motor vehicles, up from 31,000 in 2003, of which 79,129 are non-transport vehicles including two-wheelers, cars, jeeps, omni/buses, tractors, trailers and others. Within that, 54,244

²⁶ Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://www.censusindia.gov.in/2011census/hlo/Houselisting-housing-PCA.html>.

²⁷ASER Centre. ASER household characteristics over time. <http://img.asercentre.org/docs/Publications/ASER%20Reports/ASER%20TOT/householdcharacteristicsovertime.pdf>.

²⁸ The two main sources for this paragraph are the following unless mentioned otherwise: Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. Socio-Economic Development of Dadra and Nagar Haveli Since its Liberation (2012–13). Union Territory of Dadra and Nagar Haveli, Silvassa.

Transport Research Wing, Ministry of Road, Transport and Highways, Government of India. Basic Road Statistics of India 2012–13 and various issues. <http://morth.nic.in/showfile.asp?lid=1131>.

²⁹ Standard Double Lane (SDL) is defined as surfaced roads having clear carriageway width between 7.0 M and below 10.5 M. Standard multiple lane (SML) is defined as surfaced roads having clear carriageway width of 10.5 M and above.

Transport Research Wing, Ministry of Road, Transport and Highways, Government of India. Basic Road Statistics of India 2012–13 and various issues. <http://morth.nic.in/showfile.asp?lid=1131>.

³⁰ Surfaced roads having clear carriageway width of 10.5 M and above.

³¹ References in this paragraph are taken from the following source unless mentioned otherwise: Transport Research Wing, Ministry of Road, Transport and Highways, Government of India. Road Transport Yearbook 2012–13. 2015. <http://morth.nic.in/showfile.asp?lid=1905>. November.

vehicles are two-wheelers, i.e., 58 per cent. Within the transport sector, multi-axled/articulated vehicles/ trucks/ lorries are the largest category (9,335) followed by light motor vehicles (goods) (3,809). The UT has only 352 buses as of 31st March 2013 and none of them were in the public sector.

The 2011 Census showed that 24.4 per cent of households had a bicycle, 25.5 per cent of households had a scooter/motorcycle/moped and 5.7 per cent of households had a car/jeep/van³². The corresponding numbers for rural households are 21, 15.8 and 2.0 per cent. For urban households the percentage numbers are 27.6, 34.6 and 9.1 per cent, respectively.

The road safety statistics in the UT are below. Overall, Dadra and Nagar Haveli showed some improvement in 2014 but whether it is sustainable will only be seen in the future³³. Clearly the UT needs to improve its road safety.

- The total number of road accidents was 103 in 2011, 85 in 2012, 91 in 2013 and 87 in 2014.
- Number of accidents per lakh of population was 30.0 in 2011, which came down to 21.6 in 2014. The number of road accidents per 10,000 vehicles has decreased from 13.5 in 2011 to 9.7 in 2013. The number of road accidents per 10,000 km of roads has come down from 1,274.4 in 2011 to 1,123.5 in 2013.
- In 2014, out of the 87 accidents 53 were fatal, 28 grievous injury, four minor injury and two non-injury accidents. In 2014, the highest accident severity (road accident death per 100 accidents) was reported in Mizoram (78.0%), followed by Punjab (72.3%), Dadra & Nagar Haveli (67.8%) and Uttarakhand (62.3%). This number shows an upward trend for the UT from 61.2 in 2011. The number of persons killed in road accidents per lakh of population was 18.4 in 2011, which has come down to 14.7 in 2014. The total number of persons injured in road accidents per lakh of population shows a drop from 61.3 in 2011 to 23.9 in 2014.
- In Dadra and Nagar Haveli, there were a higher number of accidents in rural areas (68) versus urban areas (19) in 2014.

1.8.3 Communications

The 2011 Census shows that 57.3 per cent of households have a mobile phone, 2.8 per cent of households have a computer with an Internet connection and 5.5 per cent of households have a computer with no Internet connection³⁴. There is a significant gap between rural and urban areas—36.5 per cent of households have a mobile phone in the rural areas versus 76.5 per cent of households in urban areas. 0.7 per cent of households have a computer with Internet in rural areas versus 3.1 in urban

³² Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://www.censusindia.gov.in/2011census/hlo/Houselisting-housing-PCA.html>.

³³ The statistics in this paragraph have been taken from the following reference unless mentioned otherwise:

Transport Research Wing, Ministry of Road, Transport and Highways, Government of India. Road Accidents in India 2014. 2015. <http://morth.nic.in/showfile.asp?lid=1780>. August.

³⁴ Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://www.censusindia.gov.in/2011census/hlo/Houselisting-housing-PCA.html>.

areas. As of 31st March 2013, there were 1,949 broadband users in the UT³⁵. The number of broadband users has shown a CAGR of 17.6 per cent between 2010 and 2013. The UT Administration of DNH has started “Sara Seva Kendras” in Group Gram Panchayat offices of Naroli, Dadra, Dudhani, Khanvel, Rakholi, Kilvani, Amboli and Dapada under the Common Service Centres (CSC) Scheme, a flagship scheme under the National e-Governance Plan (NeGP) of Government of India. This service was started in March 2015 to provide G2C (Government to Consumer) services with minimal service charges³⁶.

The ASER data shows that in rural Dadra and Nagar Haveli the percentage of households with a mobile phone has gone up from 53 per cent in 2009 to 78 per cent in 2014. Further, the percentage of households in rural areas with at least one member who knows how to operate a computer has increased from 8.2 per cent in 2010 to 29.2 in 2014³⁷.

As per Census 2011, 56.7 per cent of households were using the bank account. A significant gap exists between rural (39.3%) and urban (79.1%) areas. As of 31st March 2013 only eight villages had banks³⁸. Census 2011 informs us that the UT has 65 villages. Also there were 3 post offices and 34 branch post offices. The number of villages having a post office was 34 as of 31st March 2013³⁹.

1.8.4 Drinking Water and Sanitation

Census 2011 reports that 26.5 per cent of households use treated tap water for drinking purposes, 20.5 per cent use untreated tap water, 24.5 per cent use a hand pump and 20.6 per cent of households use the tubewell/borewell⁴⁰. There is a gap between rural and urban areas in household amenities. Only 15.8 per cent of rural households have treated tap water in contrast to 35.7 per cent in urban areas. 26.4 per cent of rural households use untreated tap water for drinking in contrast to 14.7 per cent in urban areas. 11.4 per cent of rural households use uncovered wells, 30.1 per cent use hand pumps and 11.7 per cent use tubewell/borewell. In contrast, 28.9 per cent of urban households use tubewell/borewell versus 19.2 per cent who use a hand pump.

Urban areas outperform in terms of sanitation. Overall, 54.7 per cent of households have a latrine facility with 26.5 per cent in rural households and 81.3 in urban households. Only 4.9 per cent of households have a piped sewer system, with 1.6 per cent in rural and 8 per cent in urban areas. 48.2 per cent of households use a septic tank, with 23.1 per cent in rural households and 73.1 per cent in urban households.

³⁵ Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. Socio-Economic Development of Dadra and Nagar Haveli Since its Liberation (2012–13). Union Territory of Dadra and Nagar Haveli, Silvassa.

³⁶ Administration of Dadra and Nagar Haveli (UT), Department of Information Technology. 2015. Press Note. <http://www.dnh.nic.in/Docs/22April2015/IT-PressNote.pdf>. March 27.

³⁷ ASER Centre. <http://www.asercentre.org/Keywords/p/234.html>.

³⁸ Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. Socio-Economic Development of Dadra and Nagar Haveli Since its Liberation (2012–13). Union Territory of Dadra and Nagar Haveli, Silvassa.

³⁹ Ibid.

⁴⁰ Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://www.censusindia.gov.in/2011census/hlo/Houselisting-housing-PCA.html>.

73.5 per cent of rural households do not have a latrine and 70 per cent of households in rural areas use open areas as an alternative.

80 per cent of urban households have a bathroom and 59.7 per cent of rural households have neither a bathroom nor an enclosure without a roof. 62.1 per cent of households have no drainage for wastewater, with 88.4 per cent of rural households not having one. In urban areas, 47 per cent of urban households have closed drainage, 15.7 per cent closed drainage and 37.3 per cent no drainage.

1.8.5 Analysis

In terms of energy access, Dadra and Nagar Haveli is excellent. The challenge is in other areas—safe road transport, regional differences in ownership of mobile phones, limited availability of treated drinking water in urban areas and lack of piped sewer systems.

1.9 Education

1.9.1 Quantity

Dadra and Nagar Haveli has a literacy rate (seven plus years of age) of 76.2 per cent as per the Census 2011, with a higher literacy rate for males (85.17%) than females (64.3%). The literacy rate among SCs is substantially higher at 89.4 per cent. SC male literacy rate is 93.1 and for females' it is 85 per cent. In contrast, the literacy rate of STs is lower at 61.9 per cent, with the male ST literacy rate at 73.6 per cent and the female ST literacy rate at 50.3 per cent.

The Gross Enrolment Ratios (GERs) for various levels of schooling for all the population, SCs and STs in 2014–15 are shown below, which show significant disparities between SCs, STs and the rest of the population^{41,42}:

- Primary level: all 82.2, SCs 142.2 and STs 69.6
- Upper primary level: all 92.9, SCs 129.6 and STs 88.7
- Elementary level: all 86.1, SCs 137.1 and STs 77.0
- Secondary level: all 88.07, SCs 113.5 and STs 88.0
- Higher secondary level: all 37.7, SCs 69.1 and STs 32.5

Table 1.18 shows educational level by gender and community. Female educational attainment is lower than among males for all the population. SCs are better educated than all the population. In general, approximately 55 per cent of the population has a matriculation degree or lower and only 7.4 per cent of the population has a higher secondary degree. And among STs this is even lower. ASER shows that in 2014 only

⁴¹ The United Nations Educational, Scientific and Cultural Organization (UNESCO) describes Gross Enrolment Ratio as the total enrolment within a country 'in a specific level of education, regardless of age, expressed as a percentage of the population in the official age group corresponding to this level of education'. https://en.wikipedia.org/wiki/Gross_enrolment_ratio

⁴² National University of Education Planning and Administration. School Education in India 2014–15. <http://www.dise.in/Downloads/Publications/Documents/U-DISE-SchoolEducationInIndia-2014-15.pdf>.

in 35 per cent of households in rural areas was there at least one household member who has completed Class 12.

Table 1.18: Educational Level by Gender (% of population 7 years and above), 2011

Community	Sex	Below Primary	Primary	Middle	Matric Secondary	Higher Secondary/ Intermediate/ Pre-University/ Senior Secondary	Technical Diploma or certificate not equal to degree	Graduate and above
All	P	14.9	16.5	12.8	11.7	7.4	1.6	6.5
	M	14.6	17.2	14.9	14.7	8.7	2.2	7.3
	F	15.3	15.6	9.9	7.8	5.5	0.9	5.5
SCs	P	12.5	16.7	16.7	16.6	9.2	3.0	6.9
	M	11.3	22.3	18.3	18.0	9.9	4.2	8.2
	F	13.9	16.7	14.8	14.0	8.3	1.5	5.3
STs	P	19.0	18.0	10.5	5.3	3.2	0.8	1.5
	M	21.1	21.1	12.8	7.0	4.3	1.0	1.9
	F	17.0	15.0	8.3	3.6	2.1	0.6	1.1

Notes: M stands for male, F for female and P for person.

Secondary stands for Higher Secondary/Intermediate/Pre-University/Senior secondary.

The percentages may not add up to 100 because some categories have been left out of the table above.

Source: Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011 and Census 2001. <http://censusindia.gov.in/>.

There are 337 government schools and 40 private schools in the UT as of 31st March 2013. There are 1,632 teachers in government schools and 321 in private schools, and enrolment is also higher in government schools (59,549) than in private schools (15,072) as of 31st March 2013⁴³. The ASER data (sample) confirms that the majority of children in rural Dadra and Nagar Haveli were enrolled in public schools (78.2%) in 2014. 13.4 per cent were in private schools in 2012. In 2008, the corresponding numbers were 86.33 per cent and 10.33 per cent, respectively⁴⁴.

The DISE statistics show that sampled schools (344 in 2014–15) in both rural and urban areas have the following characteristics⁴⁵:

- 100% of schools had drinking water facilities in the school.
- 95.34 per cent of schools had a boy's toilet and 99.13 per cent of schools had a girl's toilet.
- 99.42 per cent of schools had a medical check-up done in the previous academic year.
- 42.7 per cent of schools had a playground facility.
- 97.4 per cent of schools had a library facility.
- 98.6 per cent of schools had an electricity connection.
- 40.1 per cent of schools had a computer.
- 100 per cent of schools had a building.
- 45.6 per cent of schools had a boundary wall.

⁴³ Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. Socio-Economic Development of Dadra and Nagar Haveli Since its Liberation (2012–13). Union Territory of Dadra and Nagar Haveli, Silvassa.

⁴⁴ ASER website. <http://www.asercentre.org/education/data/india/statistics/level/p/66.html>.

⁴⁵ National University of Education Planning and Administration. School Education in India 2014–15. <http://www.dise.in/Downloads/Publications/Documents/U-DISE-SchoolEducationInIndia-2014-15.pdf>.

- 29.9 per cent of schools had a separate room for the headmaster.

1.9.2 Quality

The ASER Survey 2012 gives an indication of the quality of education in the UT (Table 1.19). Overall, DNH seems to be performing at the same level as India in 2012. The percentage of all students from class one to eight who can read Standard 2 text in rural areas shows worsening between 2008 and 2012. The metrics for reading standard one shows improvement for DNH between 2008 and 2012. The metrics for reading a letter shows significant improvement but reading a word shows marginal decline between 2008 and 2012.

In arithmetic we see similar trends. Educational quality improves between 2008 and 2012 except when we look at two metrics—the percentage of children who can subtract and divide.

Table 1.19: Educational Quality, Classes I–VIII, All Schools 2008 and 2012

Category	Year	Rural Region	Metrics	% of children who can read			
				Not even letter	Letter	Word	Level 1 (Std. I text)
Percentage of Children by Reading level	2008	Dadra and Nagar Haveli	1.6	12.3	17.0	18.0	51.1
		India	9.0	16.4	15.6	18.0	41.0
	2012	Dadra and Nagar Haveli	9.7	18.0	16.1	22.2	34.0
		India	12.8	19.5	15.0	15.0	37.7

Category	Year	Region	Not even 1–9/Nothing	% of children who can Recognise numbers			Divide
				1–9	10–99	Subtract	
Percentage of Children by Arithmetic level	2008	Dadra and Nagar Haveli	2.0	13.1	20.3	23.8	40.9
		India	8.8	18.4	22.4	22.5	27.9
	2012	Dadra and Nagar Haveli	8.3	28.3	43.3	14.8	5.3
		India	10.7	22.0	26.6	20.7	20

Note: Statistics post-2012 are not available.

Source: ASER Centre. 2008 and 2013. Annual Status of Education Report (Rural) 2008 and 2012. <http://www.asercentre.org/Keywords/p/236.html>.

1.10 Health

Dadra and Nagar Haveli is outperforming India in terms of its health indicators (Table 1.20). Its infant and maternal mortality rates are lower than that of India, indicating a better health eco-system in the UT. Further, the low natural growth rate

but high population growth rate tells us that migration is driving part of the population growth in the UT.

Dadra and Nagar Haveli has only 0.4 doctors per 1,000 people and 1.8 hospital beds per 1,000 people (Table 1.21) as of 31st March 2013. This is fairly low when compared to the Indian number in 2012, which is 0.7 doctors per 1,000 people⁴⁶. While the UT has made tremendous progress since 1954, it continues to have only one hospital since the 1950s. Further, the number of doctors and nurses fluctuates greatly in just one financial year. This requires further investigation for further comments but is clearly worrisome. The UT clearly needs to ramp up its health infrastructure.

Table 1.20: Vital Statistics

S. No.	Particulars	Unit	Dadra and Nagar Haveli 31 st March, 2013	India 2013-14
1.	Birth Rate	per 1,000 population	18.85	21.6
2.	Death Rate	per 1,000 population	3.80	7
3.	Natural Growth rate	per 1,000 population	1.5 [#]	14.5
4.	Infant Mortality Rate	per 1,000 live births	8.39	42
5.	Maternal Deaths	per 1,000 live births	0.16	178*

Notes: *This is the maternal mortality ratio defined as the proportion of maternal deaths per 1,00,000 live births in 2010-12.

Calculated from birth and death rates.

Sources: Socio Economic Development of DNH India –Statistical Abstract: India and SRS Bulletin via Department of Planning and Statistics, U.T. Administration of Daman and Diu, Secretariat Daman. 2014. Statistical Diary 2013-14. August.

Sample Registration System. Office of Registrar General of India. 2013. “Special Bulletin on Maternal Mortality in India 2010-12.

http://www.censusindia.gov.in/vital_statistics/SRS_Bulletins/MMR_Bulletin-2010-12.pdf.

Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. Socio-Economic Development of Dadra and Nagar Haveli since its Liberation (2012-13). Union Territory of Dadra and Nagar Haveli, Silvassa.

Table 1.21: Number of Medical and Health Services

S. No.	Item	At the time of liberation, 1954	31 st March 2012	31 st March 2013
1.	Hospitals	1	1	1
2.	Community Health Centres	0	1	1
3.	Primary Health Centres	0	6	6
4.	Dispensaries	3	3	3
5.	Sub-Centres	2	50	50
6.	Doctors	3	88	73
7.	Nurses	3	225	164
8.	Beds	20	376	376

Source: Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. Socio-Economic Development of Dadra and Nagar Haveli since its Liberation (2012-13). Union Territory of Dadra and Nagar Haveli, Silvassa.

⁴⁶ Central Bureau of Health Intelligence.

<http://www.cbhidghs.nic.in/writereaddata/mainlinkFile/Human%20Resources%20in%20Health%20Sector-2012.pdf>.

1.11 Poverty

The available numbers for poverty rates from published sources were not reliable given that they showed conflicting evidence. Further, it could not be reconciled with the evidence that the UT's per capita GSDP was on average five times higher than the Indian one. Therefore, we used the all-India poverty line to calculate the percentage of people living below the poverty line to understand the dynamics of poverty.

Overall, poverty is higher in the UT versus India (Table 1.22). Urban poverty in the UT is lower than Indian urban poverty, but rural poverty is significantly higher. This drives up the overall poverty rate of the UT therefore exhibiting a very high incidence of poverty although overall poverty has decreased between 2004–05 and 2011–12.

More detailed analysis is needed to understand the factors that are driving rural poverty. From the NSS data, we know that about a third of the working population is engaged in agriculture, while its average share is only 1.2 per cent of GSDP for the period considered in this study. With a large ST population living in rural areas and the relatively lower educational attainment may explain the large incidence of rural poverty. Further, the labour force participation rate went down especially for women. On the other hand, per capita GSDP is five times higher than that of Indian per capita GDP. The NSS data in its present form is not enough to give statistical evidence to understand its dynamics. However, if we were to estimate rural and urban per capita GDP that may give some indication too about what is driving rural poverty in the UT.

Another interesting point is that despite slower growth between 2009–10 and 2012–13, poverty has come down. Of course, we do not know what the growth rate was prior to 2008–09 and therefore it is important to develop a time series for GSDP going back at least to 2004–05.

Table 1.22: Percentage of Population below Poverty Line by States, 2004–05 and 2011–12 (Tendulkar Methodology using all-India poverty line)

	<i>Dadra and Nagar Haveli</i>			<i>India</i>		
	<i>Rural</i>	<i>Urban</i>	<i>Total</i>	<i>Rural</i>	<i>Urban</i>	<i>Total</i>
2004–05	47.2	14.0	43.6	41.8	25.7	37.2
2011–12	41.9	7.4	26.5	25.7	13.7	21.9

Notes: 1. Since the NSSO data are small for the UT and not fully reliable, these estimates should only be taken as an indication of poverty in Dadra and Nagar Haveli.

2. Using the Tendulkar methodology, the all-India poverty line in 2004–05 for rural areas was ₹447 and for urban areas it was ₹579 per capita per month. In 2011–12, the corresponding numbers were ₹816 and ₹1,000, respectively.

3. Using the Rangarajan methodology, the all-India poverty line in 2011–12 in rural areas was ₹972 and in urban areas it was ₹1,407 per capita per month. The Rangarajan methodology shows that the percentage of poverty in 2011–12 was 1.6%, 30.4% and 2.8% in rural, urban and total regions, respectively.

Source: NCAER computations from NSSO and Planning Commission.

1.12 Inequality

Table 1.23: Quintile Share in Total Household Consumption Expenditure, 2004–05 and 2011–12

Quintile	Dadra and Nagar Haveli		India	
	2004–05	2011–12	2004–05	2011–12
I	10.0	9.1	9.5	8.8
II	14.2	14.2	13.2	12.8
III	14.8	18.6	16.6	16.4
IV	20.6	22.2	21.6	21.7
V	40.4	36.0	39.1	40.3

Source: NCAER computations from NSSO 61st and 68th rounds.

Table 1.23 shows that the share of consumption expenditure of the top 20 per cent of the population has decreased from 40.4 per cent in 2004–05 to 36 per cent in 2011–12. And the share of the bottom 20 per cent has marginally decreased. Overall, between 2004–05 and 2011–12, we see a more equitable share in the UT. In India, in contrast, we see the bottom 60 per cent reducing their respective shares between 2004–05 and 2011–12, while the top 40 per cent increases its share of consumption expenditure between the time periods. In 2011–12, Dadra and Nagar Haveli was relatively more equitable than the rest of India.

1.13 Environment

The Central Pollution Control monitors the air and water quality of India. Based on its slightly dated but the latest statistics, we assess the environmental quality in the UT.

1.13.1 Air Quality

There are two monitoring stations in Silvassa in Dadra and Nagar Haveli. Air quality is relatively clean⁴⁷. The annual mean concentration range of sulphur dioxide (SO₂) is low (7µg/m³ or seven micrograms per cubic metre of air), i.e., ranging between zero and 25. Nitrogen dioxide is just within the low range; the annual mean concentration is 18 µg/m³ and it should range between 0 and 20 µg/m³. The annual mean concentration of PM₁₀ (particulate matter up to 10 micrometres in size) is moderate. It is 39 µg/m³ when the moderate range is from 31 to 60 µg/m³.

1.13.2 Water Quality

1.13.2.1 Rivers

There are nine stations altogether in Daman and Dadra & Nagar Haveli to monitor the quality of the river Damanganga. As per the ‘Status of Water Quality in India –

⁴⁷Central Pollution Control Board, Ministry of Environment and Forests. 2012. National Ambient Air Quality Status and Trends in India-2010. <http://www.cpcb.nic.in>. January.

2011'⁴⁸, the water quality of the river Damanganga does not meet the desired water quality criteria at the Discharge Point Distillery, Zuari Cause Way Bridge, Daman Jetty, Motidaman and Village Namdha (Vapi) in Daman. The exact metrics for 2011 are given below, which indicate that both UTs need to work together to clean up the river.

- The BOD⁴⁹ concentration level in Damanganga has increased between 2010 and 2011, from 32 milligrams/litre (mg/l) to 354 mg/l⁵⁰. Damanganga was the third dirtiest river on this metric after the rivers Kala Amb (535 mg/l) in Himachal Pradesh and Savitri in Maharashtra (525 mg/l).
- The level of dissolved oxygen (DO)⁵¹ observed in Damanganga is 1.4 mg/l. It should be above 4 mg/l.
- The average pH⁵² balance is 8.1, which is within the range of 6.5–8.5.
- Nitrate plus nitrite⁵³ should be less than 10 mg/l for human consumption and in 2011 the average was 3.6 mg/l.
- Faecal coliform⁵⁴ was 35 MPN/100ml, which should be below 2,500 MPN/100ml⁵⁵.
- Total coliform was 46 MPN/100ml, which should be below 5,000 MPN/100ml⁵⁶.

Specifically, at the three check points in Dadra and Nagar Haveli—at Lavacha Temple, Surat Beverages, Dadra and Naroli Bridge, Silvassa—Daman Ganga meets all the standards. Conductivity in water remains a problem and is significantly higher

⁴⁸ Central Pollution Control Board, Ministry of Environment and Forests. 2013. Status of Water Quality of India in 2011. <http://www.cpcb.nic.in>.

⁴⁹ Biochemical oxygen demand (BOD) is the amount of dissolved oxygen needed by aerobic biological organisms in a body of water to break down organic material present in a given water sample at a certain temperature over a specific time period.

https://en.wikipedia.org/wiki/Biochemical_oxygen_demand.

⁵⁰ Milligrams per litre.

⁵¹ Dissolved oxygen refers to the level of free, non-compound oxygen present in water or other liquids. It is an important parameter in assessing water quality because of its influence on the organisms living within a body of water. A dissolved oxygen level that is too high or too low can harm aquatic life and affect water quality. <http://www.fondriest.com/environmental-measurements/parameters/water-quality/dissolved-oxygen/>.

⁵² pH is a measure of the activity of the hydrogen ion (H⁺). The pH scale ranges from 0 to 14. In general, water with a pH < 7 is considered acidic and with a pH > 7 is considered basic. The normal range for pH in surface water systems is 6.5 to 8.5 and for groundwater systems it is 6 to 8.5. <http://www.water-research.net/index.php/ph>.

⁵³ Nitrate is an inorganic compound that can be a natural or man-made contaminant in drinking water. High nitrate levels can indicate the presence of other pollutants, such as bacteria or pesticides, as these pollutants may follow the same path as the nitrate into the water supply. <http://www.cnawater.com/WhatIsNitrateNitrite.html>.

⁵⁴ Faecal coliform bacteria are the most common microbiological contaminants of natural waters. Fecal coliform live in the digestive tracts of warm-blooded animals, including humans, and are excreted in the faeces. http://www.clemson.edu/extension/natural_resources/water/publications/fecal_coliform.html

⁵⁵ MPN stands for most probable number. The MPN method is a well-established and fully documented method of estimating the number of viable coliform in water in which the coliform are randomly distributed. <http://www.novatx.com/most-probable-number-mpn/>.

⁵⁶ Total coliforms include bacteria that are found in the soil, in water that has been influenced by surface water and in human or animal waste. https://www.health.ny.gov/environmental/water/drinking/coliform_bacteria.htm

than the standard⁵⁷. It is around 246 $\mu\text{mhos/cm}$, when it should be between 6.5 and 8.5.

1.13.2.2 Groundwater

There are six groundwater monitoring locations in Dadra and Nagar Haveli. The 2011 indicators show that groundwater quality does not meet the desired targets with especially potentially deleterious effects on the citizens.

- The pH balance should be greater than 4 mg/l and it is greater than 7 mg/l at all locations.
- Conductivity should be between 6.5 and 8.5 $\mu\text{mhos/cm}$. The average conductivity is 1,302 $\mu\text{mhos/cm}$. This is especially problematic because rural households mostly rely on open wells, tubewells and hand pumps for drinking water.
- The BOD should be less than 3 mg/l but it is 6 mg/l in two locations for which the data are reported.
- The average nitrate plus nitrite should be below 3 mg/l and five locations meet those standards. In Khanvel village, Dadra, the average nitrate plus nitrite is 5.1, i.e., it does not meet the standard.
- The average total coliform is 7.2 MPN/100ml and it is within the target.
- Fluoride should be below 2,500 MPN/100ml and the average is 0.4 MPN/100ml.

1.14 The Way Forward

Registered manufacturing dominates the economic structure of the UT. Despite having a per capita income that is five times higher than the Indian figure, the incidence of rural poverty is very high in the UT. The UT needs investments in infrastructure, both physical and human. Drinking water and sanitation and water pollution are key concerns in Dadra and Nagar Haveli.

Chapter 2 discusses the economic activities of the agriculture and allied sector in detail. The economic activities of the industrial sector are examined in detail in Chapter 3 and Chapter 4 discusses the services sector. Chapter 5 discuss the strategic path forward.

⁵⁷ The total mass of dissolved constituents is referred to as the total dissolved solids (TDS) concentration. In water, all of the dissolved solids are either positively charged ions (cations) or negatively charged ions (anions). The total negative charge of the anions always equals the total positive charge of the cations. A higher TDS means that there are more cations and anions in the water. With more ions in the water, the water's electrical conductivity (EC) increases. By measuring the water's electrical conductivity, we can indirectly determine its TDS concentration. At a high TDS concentration, water becomes saline. Water with a TDS above 500 mg/l is not recommended for use as drinking water (EPA secondary drinking water guidelines). Water with a TDS above 1,500 to 2,600 mg/l (EC greater than 2.25 to 4 mmho/cm) is generally considered problematic for irrigation use on crops with low or medium salt tolerance.
<http://groundwater.ucdavis.edu/files/136273.pdf>.

Chapter 2: Agriculture and Allied Activities Sector

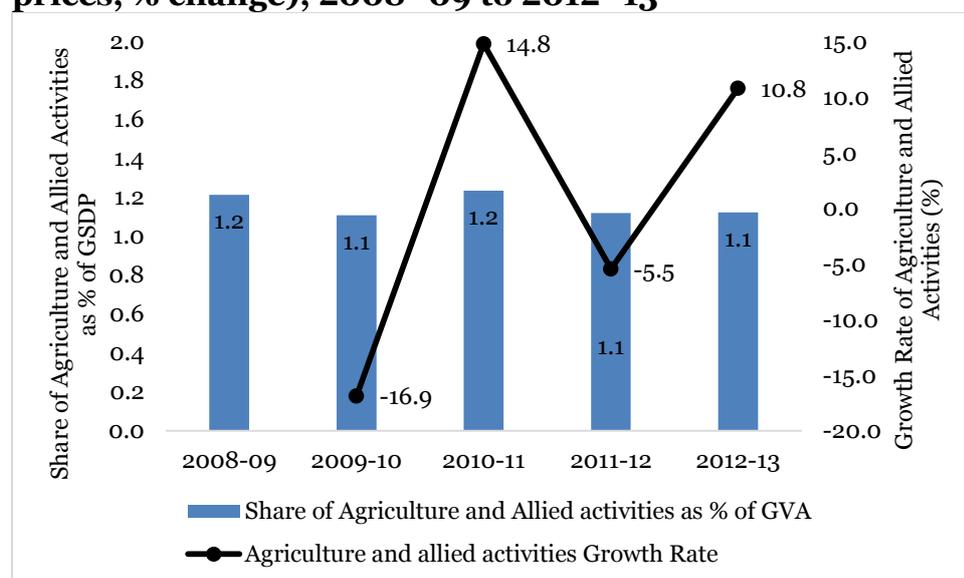
2.1 Introduction

The agriculture and allied activities sector consists of agriculture proper including growing both forest and horticulture crops and livestock and animal husbandry; forestry and logging; and fishing. The sector forms less than 2 per cent of the Gross Value Added (GVA) of Dadra and Nagar Haveli. Its share in total GVA has averaged around 1.2 per cent between 2008–09 and 2012–13. The share of the sector has remained stable over time (Figure 2.1), hovering between 1.1 and 1.3 per cent of GVA. Further, the sector is characterised by volatile growth rates. The National Sample Survey (NSS) reveals that in 2011–12, 27.7 per cent of total labour inputs were engaged in the agriculture (proper) sub-sector. Chapter 1 shows that there is very low labour productivity in the sub-sector.

Within this sector the agriculture proper sector is the dominant sub-sector, followed by forestry and then fishing. Within agriculture, growing of crops is the most dominant activity. All three activities either show low growth or volatile ones.

The rest of the chapter presents the GSDP results in detail for all three sub-sectors.

Figure 2.1: Share of Agricultural and Allied Sector as percentage of GSDP and Agriculture and Allied Sector Growth Rate (constant 2004–05 prices, % change), 2008–09 to 2012–13



Source: NCAER computations.

2.2 Agriculture Proper

The average percentage share of agriculture proper for the period 2008–09 to 2012–13 has been 0.9 per cent of the GSDP and the share has remained stable at around 0.9 to one per cent of GSDP (Table 2.1). Agriculture proper shows negative growth in 2009–10 and 2011–12 and double-digit positive growth in the other two years.

Table 2.1: Agriculture Proper, Gross Value Added (current and constant 2004–05 prices, ₹lakh), Growth Rates (%) and Share of Gross Value Added (%), 2008–09 to 2012–13

<i>Year</i>	<i>Agriculture Proper</i>	<i>Growing of crops</i>	<i>Livestock and Animal husbandry</i>
<i>At Current Price (₹lakh)</i>			
2008–09	9,392	6,355	3,037
2009–10	9,707	6,185	3,522
2010–11	11,689	7,677	4,012
2011–12	12,075	7,688	4,387
2012–13	14,549	9,697	4,852
<i>At Constant Price (2004–05 prices, ₹lakh)</i>			
2008–09	7,435	4,708	2,728
2009–10	6,317	3,725	2,592
2010–11	7,095	4,382	2,712
2011–12	6,619	3,953	2,667
2012–13	7,555	4,816	2,739
<i>Share of GSDP (2004–05 prices, %)</i>			
2008–09	0.95	0.60	0.35
2009–10	0.89	0.52	0.36
2010–11	0.97	0.60	0.37
2011–12	0.87	0.52	0.35
2012–13	0.90	0.57	0.33
<i>Share of Agriculture and Allied Activities (2004–05 prices, %)</i>			
2008–09	78.6	49.8	28.8
2009–10	80.3	47.4	33.0
2010–11	78.6	48.6	30.1
2011–12	77.6	46.3	31.3
2012–13	79.9	50.9	29.0
<i>Share of Agriculture Proper (constant 2004–05 prices, %)</i>			
2008–09	100.0	63.3	36.7
2009–10	100.0	59.0	41.0
2010–11	100.0	61.8	38.2
2011–12	100.0	59.7	40.3
2012–13	100.0	63.7	36.3
<i>Growth Rate (constant 2004–05 prices, %)</i>			
2009–10	–15.0	–20.9	–5.0
2010–11	12.3	17.7	4.6
2011–12	–6.7	–9.8	–1.7
2012–13	14.1	21.9	2.7

Source: NCAER computations from NAD and relevant departments of the UT administration.

Within the agriculture and allied sector, the share of agriculture proper has averaged around 79 per cent. The two components of agriculture proper, namely, growing of crops and livestock & animal husbandry contribute approximately in the ratio of 60:40 to agricultural GVA.

2.2.1 Growing of Crops

Growing of crops forms, on average, 0.6 per cent of GSDP (Table 2.1). It is approximately 48.6 per cent of the agriculture and allied activities sector and forms 61.5 per cent of agriculture proper. The average growth rate for the period has been – 2.2 per cent. The growth rate is volatile with the coefficient of variation (CV) of growth rate being 9.4¹.

Following land use statistics data (Table 2.2), we see that the cultivated area as a percentage of the total area in Dadra and Nagar Haveli was comparable to India in 2008–09. However, this has steadily come down and relatively rapidly during the duration of this study. In 2012–13, cultivated area as a percentage of the total area stood at 35.7 per cent versus 43.1 per cent in India. The cropping intensity ratio is higher than in Daman and Diu but lower than in India and this has also come down between 2008–09 and 2012–13. The good news is that the percentage of irrigated area has increased from 24.4 per cent in 2008–09 to 33.7 per cent in 2012–13. It is still lower than that of India.

Table 2.2: Some Agriculture Parameters, 2008–09 to 2012–13

	2008–09	2009–10	2010–11	2011–12	2012–13
<i>Cultivated area as %age of total area</i>					
Daman & Diu	20.7	20.7	28.2	28.2	28.2
Dadra & Nagar Haveli	42.9	41.2	41.0	36.4	35.7
India	42.5	42.9	43.2	42.3	43.1
<i>Cropping intensity (ratio of gross to net cropped area)</i>					
Daman & Diu	100	100	100	100	100
Dadra & Nagar Haveli	136.0	132.9	128.2	128.1	124.8
India	137.6	138.4	137.7	135.8	139.6
<i>%age of irrigated area</i>					
Daman & Diu	0	0	0	0	0
Dadra & Nagar Haveli	24.4	26.6	28.3	31.9	33.7
India	46.2	43.6	45.5	48.5	46.9

Source: Land Use Statistics data, DES, Ministry of Agriculture GOI.
http://eands.dacnet.nic.in/LUS_1999_2004.htm.

There are two kinds of crop classification—forecast crops and horticultural crops. The GVA of forecast crops constitutes, on average, 54.2 per cent of the GVA of growing crops, and horticultural crops form the rest of the 45.8 per cent (Table 2.3). The average growth rate of forecast crops is 3.1 per cent during 2008–09 to 2012–13 and that of horticultural crops is 5.8 per cent. Within forecast crops, paddy is the main crop. The average (for the duration of the study) percentage share of paddy in forecast crops is 58.8 per cent, with the share going up in 2012–13 (64.6%). *Arhar* is the next important forecast crop with the average share being 9.8 per cent and other pulses (include pulses other than *arhar* and gram) has an average share of 12 per cent. Within horticultural crops, mango has the largest share, with an average share of 50 per cent. Other fruits has the next largest share with 24 per cent.

¹ The coefficient of variation (CV), also known as relative standard deviation (RSD), is a standardised measure of dispersion of a probability distribution or frequency distribution. It is defined as the ratio of the standard deviation to the mean (or its absolute value). It shows the extent of variability in relation to the mean of the population.

Table 2.3: Gross Value Added current and constant 2004–05 prices (₹lakh), Share in Growing of Crops and Growth Rate (%), 2008–09 to 2012–13

Year	Forecast Crops				Horticultural Crops			
	GVA (current ₹lakh)	GVA (constant 2004–05 prices, ₹lakh)	Share in Growing Crops (%)	GR	GVA (current ₹ lakh)	GVA (constant 2004–05 prices, ₹ lakh)	Share in Growing Crops (%)	GR
2008–09	3,653	2,664	56.6		2,702	2,043	43.4	
2009–10	3,048	1,850	49.7	-30.6	3,137	1,875	50.3	-8.2
2010–11	4,186	2,425	55.3	31.1	3,491	1,957	44.7	4.4
2011–12	4,012	2,044	51.7	-15.7	3,676	1,909	48.3	-2.5
2012–13	5,599	2,770	57.5	35.5	4,099	2,046	42.5	7.2

Source: NCAER computations from NAD and relevant departments of the UT administration.

Small holdings (between one and two hectares) and marginal size holdings (below one hectare) together comprise 81 per cent of total holdings in Dadra and Nagar Haveli in 2012–13². They consist of 47 per cent of the total operational holdings. Out of 14,460 holdings, Scheduled Tribes (STs) hold 87.9 per cent. Of these 14,460 holdings, small and marginal ST farmers hold 72 per cent.

The NSSO data from 2011–12 gives similar information. Small and marginal farmers form 95 per cent of farmers in Dadra and Nagar Haveli. The corresponding numbers for India and Daman and Diu are 84.2 and 97.3, respectively. Small and marginal farmers hold 83 per cent of the land in Dadra and Nagar Haveli. The corresponding numbers for India and Daman and Diu are 44 and 82.7 per cent, respectively.

Further, we use NSSO data (2011–12) to find that overall home grown consumption of food items is 15.1 per cent for all farmers and 15.9 per cent for small and marginal farmers³. However, when we look at the percentage of farming households whose principal activity is agriculture (growing of crops and livestock), this is only 31.4 per cent for all farmers and 32.4 per cent for small and marginal farmers. The corresponding numbers for India are 66.2 and 62.7 per cent, respectively (NSSO 2011–12). The principal activity for 45.4 per cent of all farming households is industry in the UT and it is 43.8 per cent for small and marginal farmers. The corresponding Indian numbers are 18.6 and 19.7 per cent, respectively. Similarly, the principal activity for 20.4 per cent of all farming households is services in Dadra and Nagar Haveli and it is 20.9 per cent for small and marginal farmers. The corresponding Indian numbers are 14.6 and 16.6 per cent, respectively. The inference is that agricultural income is a secondary income for the majority of small

²Agricultural Census 2005–06 via Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. Socio-Economic Development of Dadra and Nagar Haveli Since its Liberation (2012–13). Union Territory of Dadra and Nagar Haveli, Silvassa.

³The usual disclaimer about using NSSO data for the UT applies here too that it is a small sample. Essentially, the data that is used here is based on ‘perceptions’ and should not be seen as representation.

and marginal farmers. A targeted policy needs to be developed to uplift small and marginal farmers for whom agricultural income is their principal source of income.

2.2.2 Livestock and Animal Husbandry

This constitutes growing of milk, eggs, wool, dung, meat products and by-products, silk and honey. The average (for the period of our study) share of livestock and animal husbandry is 0.4 per cent of GSDP, 30.4 cent of the agriculture and allied activities sector and 38.5 per cent of agriculture proper (Table 2.1). The average growth rate for the period has been 3.7 per cent. However, the CV of growth rate is 24.6, indicating volatile growth. The volatility is significantly higher than “growing of crops” (CV=9.4).

The main contributors to the GVA in this sub-sector are milk and meat (Tables 2.4a and 2.4b). The contributions of meat by-products, dung, wool and bristles are minimal. There is no production of silk and honey in the UT. As per the Livestock Census of 2007, Dadra and Nagar Haveli has a livestock population of 90,047 and a cross-bred cattle population of 1,376⁴.

Table 2.4a: Gross Value Added of Livestock and Animal Husbandry Products, current (₹lakh), 2008–09 to 2012–13

Year	Milk	Eggs	Meat	Meat Products	Other livestock products
2008–09	1,744	88	1,028	50	126
2009–10	2,029	98	1,183	77	135
2010–11	2,328	108	1,337	89	150
2011–12	2,556	130	1,454	76	172
2012–13	2,835	140	1,599	90	187

Source: NCAER computations from NAD and relevant departments of the UT administration.

Table 2.4b: Gross Value Added of Livestock and Animal Husbandry Products, constant 2004–05 prices (₹lakh) and Growth Rate (%), 2008–09 to 2012–13

Year	Milk		Eggs		Meat		Meat Products		Other livestock Products	
	GVA	GR	GVA	GR	GVA	GR	GVA	GR	GVA	GR
2008–09	1,573		77		916		46		115	
2009–10	1,493	-5.1	73	-6.0	860	-6.1	56	20.7	111	-3.4
2010–11	1,574	5.5	74	2.2	888	3.2	58	3.6	118	6.4
2011–12	1,548	-1.7	76	2.5	879	-1.0	45	-22.4	119	0.8
2012–13	1,591	2.8	76	-0.2	903	2.8	46	2.8	123	2.8

Note: GR stands for growth rate.

Source: NCAER computations from NAD and relevant departments of the UT administration.

⁴ Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014. Socio-Economic Development of Dadra and Nagar Haveli since its Liberation (2012–13). Union Territory of Dadra and Nagar Haveli, Silvassa.

2.3 Forestry and Logging⁵

Table 2.5: Recorded Forest Area (in km²), 2003 to 2013

Region	Year	Geographical Area	Recorded Forest Area (RFA) km ² *	Recorded Forest Area (as Revised by SFDs) km ²			Total RFA [#]	%age of GA
				Reserved Forests	Protected Forests	Unclassed Forests		
Dadra and Nagar Haveli	2003		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	2007	491	204	199	5	0	204	41.6
	2013		204	199	5	0	204	41.6
India	2003		7,68,436	3,99,919	2,38,434	1,36,387	7,74,740	23.6
	2007	3,287,263	7,69,626	4,30,582	2,06,219	1,32,711	7,69,512	23.4
	2013		7,69,538	4,25,494	2,14,986	1,31,341	7,71,821	23.5

Notes: * As reported by Indian Forest Reports.

Reported by the State Forest Department.

Source: Forest Survey of India, Ministry of Environment and Forests, Government of India. 2013. *India State of Forest Report 2013* and previous issues. <http://fsi.nic.in/>.

As reported in Chapter 1, almost 42 per cent of the total geographical area of Dadra and Nagar Haveli is forest area with 97.5 per cent of it being reserved forests (Table 2.5)⁶. The remaining 5 per cent is 'protected forests'⁷. In 2013, the recorded forest area was 204km² but assessment shows that forest cover is 213km² (2013). Only 47 km² is within the green wash, with 46 km² being open forests and one square km being moderately dense forest in 2013⁸. This is unlike the overall Indian phenomenon where the majority of the forest is within the green wash area (Footnote no. 5). Of the 166 km² of forests outside the green wash, 113 km² is open forest and 53km² is

⁵ The source for this section is the following unless mentioned otherwise:

Forest Survey of India, Ministry of Environment and Forests, Government of India. 2013. *India State of Forest Report 2013*. <http://fsi.nic.in/>.

⁶ Reserved Forest is an area mass of land duly notified under the provisions of the India Forest Act or the State Forest Acts having full degree of protection. In Reserved Forests all activities are prohibited unless permitted. Reserved Forest is notified under Section 20 of the Indian Forest Act, 1927 [Act 16 of 1927] or under the reservation provisions of the Forest acts of the State Governments of the Indian Union.

Source: Wikipedia. https://en.wikipedia.org/wiki/Indian_Forest_Act,_1927#Reserved_Forest.

⁷ Protected Forest an area or mass of land notified under the provisions of India Forest Act or the State Forest Acts having a limited degree of protection. In Protected Forests, all activities are permitted unless prohibited.

Source: https://en.wikipedia.org/wiki/Indian_Forest_Act,_1927#Protected_Forest.

⁸ The Survey of India toposheets show forest areas with double dotted lines and wooded lands as green wash patches. In the State of Forest Reports 2013, the Forest Survey of India (FSI) tried to record forest cover changes within and outside the recorded forest area. Therefore, the FSI used the toposheets from Survey of India. For India, FSI found that the recorded forest area broadly overlapped with the green wash areas, which was corroborated on the ground. Not all the land is owned by the Forest Department. It includes private forests, community forests, etc. In India, forest cover inside the greenwash area is 530,779 square km and outside it is 167,119 square km.

Sources: Forest Survey of India, Ministry of Environment and Forests, Government of India. 2013. *India State of Forest Report 2013*. <http://fsi.nic.in/>.

Ranade, P.S. 2009. *Infrastructure Development and its Environmental Impact: Study of Konkan Railway*. Concept Publishing Company, New Delhi, India.

Table 2.6: Forestry and Logging, Gross Value Added (current and constant 2004–05 prices, ₹lakh), Growth Rates (%) and Share of Gross Value Added (%), 2008–09 to 2012–13

<i>Year</i>	<i>Forestry and Logging</i>	<i>Industrial Wood</i>	<i>Fuel Wood</i>	<i>Non Timber Forest Produce</i>	<i>Trees Outside Forests</i>
<i>At Current Price (₹lakh)</i>					
2008–09	2,312	1,008	80	188	1,036
2009–10	1,912	579	100	199	1,034
2010–11	2,400	1,031	126	211	1,031
2011–12	2,427	1,031	159	211	1,025
2012–13	2,468	1,031	200	211	1,025
<i>At Constant Price (2004–05 prices, ₹lakh)</i>					
2008–09	1,986	908	42	145	890
2009–10	1,507	507	45	139	815
2010–11	1,892	903	49	127	813
2011–12	1,874	903	53	127	792
2012–13	1,859	903	57	127	772
<i>Share of GSDP (2004–05 prices, %)</i>					
2008–09	0.3	0.1	0.01	0.02	0.1
2009–10	0.2	0.1	0.01	0.02	0.1
2010–11	0.3	0.1	0.01	0.02	0.1
2011–12	0.3	0.1	0.01	0.02	0.1
2012–13	0.2	0.1	0.01	0.02	0.1
<i>Share of Agriculture and Allied Activities (2004–05 prices, %)</i>					
2008–09	21.0	9.6	0.5	1.5	9.4
2009–10	19.2	6.5	0.6	1.8	10.4
2010–11	21.0	10.0	0.5	1.4	9.0
2011–12	22.0	10.6	0.6	1.5	9.3
2012–13	20.0	9.6	0.6	1.3	8.2
<i>Share of Forestry and Logging (constant 2004–05 prices, %)</i>					
2008–09	100.0	45.7	2.1	7.3	44.8
2009–10	100.0	33.7	3.0	9.2	54.1
2010–11	100.0	47.7	2.6	6.7	43.0
2011–12	100.0	48.2	2.8	6.8	42.3
2012–13	100.0	48.6	3.0	6.8	41.6
<i>Growth Rate (constant 2004–05 prices, %)</i>					
2009–10	–24.1	–44.1	7.6	–4.1	–8.5
2010–11	25.6	78.0	7.6	–9.1	–0.2
2011–12	–0.9	0.00	7.6	0.00	–2.6
2012–13	–0.8	0.00	7.6	0.00	–2.5

Source: NCAER computations from NAD and relevant departments of the UT administration.

moderately dense forest. Further, 114 km² is moderately dense forest and 99 km² is open forest (2013)⁹. Between 2011 and 2013, an increase in forest cover was observed.

The share of forestry and logging as a percentage of GSDP during the period has remained relatively stable at 0.3 per cent of GSDP and 21 per cent of the agriculture and allied activities sector (Table 2.6). This sector shows negative growth for three out of four years. Within this sector, trees outside forests and industrial wood form the largest shares, with average shares around 45 per cent for each. Trees outside forests shows negative growth for all four years. And industrial wood shows volatile growth for 2009–10 and 2010–11 before showing zero growth for the subsequent years.

Since the majority of the forests in the UT are reserved forests, the scope for growth is limited but the government needs to think of innovative ways to fuel growth from forests, which is an important resource. This will also have important implications for Scheduled Tribes who pre-dominantly live in rural areas. The burden of poverty in the UT is in the rural areas. In Chapter 5 in the way forward, we will discuss more about forestry. However, the persistent negative growth in this sector can only be neglected at the risk of incurring huge social and environmental costs.

2.4 Fisheries

Unlike Daman and Diu, Fisheries is the smallest sector within the agricultural sector consisting mainly of inland fish in Dadra and Nagar Haveli (Table 2.7) as the UT is landlocked. Its share of GSDP has stayed around 0.1 per cent. Even within agriculture and allied activities, the share of inland fishing is barely around 0.4 or 0.5 per cent of GSDP. In constant prices it shows zero growth. In current prices, its growth has come down from 30.8 per cent in 2009–10 to 20.6 per cent in 2010–11 to 7.9 per cent in 2011–12 and 2012–13.

Table 2.7: Fisheries/Inland Fish, Gross Value Added (current and constant 2004–05 prices, ₹lakh), Growth Rates (%) and Share of Gross Value Added (%), 2008–09 to 2012–13

<i>Year</i>	<i>GVA at current Price (₹lakh)</i>	<i>GVA at constant Price (₹lakh)</i>	<i>Share of GSDP (2004–05 prices, %)</i>	<i>Share of Agriculture and Allied Activities (2004–05 prices, %)</i>	<i>Growth Rate (constant 2004–05 prices, %)</i>
2008–09	47	40	0.01	0.4	N.A.
2009–10	61	40	0.01	0.5	0.0
2010–11	74	40	0.01	0.4	0.0
2011–12	80	40	0.01	0.5	0.0
2012–13	86	40	0.005	0.4	0.0

Note: N.A. means not applicable. The UT is landlocked and therefore there is no marine fish industry here. Prawns are not produced here.

⁹ Land with forest cover having a canopy density of 40–70 per cent is called moderately dense forest. Lands with a canopy density of 10–40 per cent are called open forests.

Source: <http://www.gktoday.in/forest-cover-in-india-main-points/>.

Source: NCAER computations from NAD and relevant departments of the UT administration.

2.5 Way Forward

Agriculture shows volatile growth in the UT. It is dominated by primary crops of paddy, arhar and mango. Milk and meat are the other important products. Forestry is the next biggest sub-sector. The sector suffers from both low labour and low land productivity. With a large section of the population still dependent on agriculture, clearly this area needs significant attention. Household surveys, innovative ways to augment earnings from allied activities, training people for other jobs and successfully managing forests for both its benefit and the people dependent on it are key to both increasing growth and reducing poverty.

Chapter 3: Industry

3.1 Introduction

The industry sector comprises four sub-sectors, namely, mining and quarrying, manufacturing, construction, and electricity, gas & water supply. Since there are very few activities related to mining and quarrying in this UT, it does not contribute to the industrial GVA of Dadra and Nagar Haveli. Essentially, industry in Dadra and Nagar Haveli consists of three sub-sectors—manufacturing, construction and electricity, gas & water supply. The manufacturing sector is the largest sector, both within the industry and in overall GSDP.

The industrial sector GVA forms (on average between 2008–09 and 2012–13) 89.8 per cent of the UT's GSDP. The share has steadily come down marginally from 90.5 per cent in 2008–09 to 89.4 per cent in 2012–13 (Table 3.1). The growth rate of industry shows steady increase after being in recession in 2009–10.

Table 3.1: Industrial GSDP, current and constant 2004–05 prices, Share of Industrial GSDP as a percentage of GSDP and Growth Rate (% change of constant GDP), 2008–09 to 2012–13

<i>Year</i>	<i>Current GSDP (₹lakh)</i>	<i>Constant GSDP at 2004–05 prices (₹lakh)</i>	<i>Share of Industry as a percent of GSDP</i>	<i>Growth Rate of Constant Industrial GSDP</i>
2008–09	8,99,024	7,06,768	90.5	N.A.
2009–10	8,12,643	6,38,998	90.0	–9.6
2010–11	8,94,114	6,57,242	89.8	2.9
2011–12	9,92,715	6,78,836	89.1	3.3
2012–13	11,67,132	7,53,023	89.4	10.9

Source: NCAER computations.

Regarding the distribution of labour inputs across sectors (Table 1.13), the share of industries in total labour inputs increased impressively between 2004–05 and 2011–12, from 29.5 to 50.4 per cent. Thus, the industry sector is also the major employer in the UT in recent years. Further, Dadra and Nagar Haveli is characterised by high labour productivity in the industrial sector, with 50.4 per cent of the labour force devoted to producing 89.1 per cent of GSDP (in 2011–12).

On average, the manufacturing sector comprises 97.6 per cent of the industrial sector. After being in recession in 2009–10, the growth rate of manufacturing has increased steadily and reached double digits in 2012–13. Therefore the growth dynamics of the manufacturing sector drives the growth dynamics of the industrial sector. The manufacturing sector is dominated by registered manufacturing.

Construction and electricity, gas & water supply account for 1.0 and 1.4 per cent of total industrial GSDP, respectively. The rest of the chapter analyses the three sub-sectors in detail looking at their growth trends to map a future path for the economy.

3.2 Manufacturing

The manufacturing sector covers all manufacturing, processing and repair & maintenance services units irrespective of their employment size, investment and location. The manufacturing sector is classified into two broad sectors: 'registered' and 'unregistered'. Tables 1.9 to 1.12 present the current, constant GSDP, share of each sector as a percent of GSDP and growth rates of manufacturing and its sub-components. Table 3.2 sums up the numbers from the tables above. There are two main messages that come from the table. Registered manufacturing is the most significant sector in the economy. However, while registered manufacturing shows a trend of declining share in GSDP, unregistered manufacturing has steadily increased its share. Despite this trend, the share of GSDP of the latter remains well below one per cent.

Table 3.2: Share of Manufacturing and Growth Rate (% change of constant GDP), 2008–09 to 2012–13

Year	Manufacturing	Registered Manufacturing	Unregistered Manufacturing
<i>Share of GSDP (2004–05 prices, %)</i>			
2008–09	89.6	89.3	0.39
2009–10	88.4	87.9	0.47
2010–11	87.1	86.6	0.50
2011–12	86.2	85.7	0.52
2012–13	86.6	86.1	0.53
<i>Share of Industry (2004–05 prices, %)</i>			
2008–09	99.0	98.6	0.43
2009–10	98.2	97.7	0.53
2010–11	97.0	96.4	0.56
2011–12	96.7	96.1	0.58
2012–13	96.8	96.2	0.59
<i>Share of Manufacturing (constant 2004–05 prices, %)</i>			
2008–09	100.0	99.6	0.44
2009–10	100.0	99.5	0.54
2010–11	100.0	99.4	0.57
2011–12	100.0	99.4	0.60
2012–13	100.0	99.4	0.61
<i>Growth Rate (constant 2004–05 prices, %)</i>			
2009–10	–10.3	–10.4	10.2
2010–11	1.5	1.5	8.5
2011–12	3.0	3.0	8.4
2012–13	11.1	11.1	12.1

Source: NCAER computations.

It is after the integration of Dadra and Nagar Haveli with the Union of India that the first industrial unit started at Piparia, Silvassa in the year 1965 in the co-operative sector¹. Thereafter, the industrial estates at Masat (1978) and Khadoli (1982) and the

¹ The source for this paragraph is the following unless mentioned otherwise:

second phase of Silvassa (1985) were established. Now there are 2,230 industrial units permanently registered up to 2005–06 as of 31st March 2013, of which 1,683 are small-scale units and 547 are medium- and large-scale units (Table 3.3). The Micro, Small and Medium Enterprises Development Act 2006 was implemented in Dadra and Nagar Haveli with effect from 2 October 2006. Under this Act, a total of 2,914 ‘no objection’ certificates were issued up to 31st March 2011. However, as of 31st March 2013, only 836 enterprises exist today, of which 369 are micro enterprises, 431 are small enterprises and 36 are medium enterprises (Table 3.3). The Indian Government has granted approval for setting up three Special Economic Zones (SEZs). One is at Velugam for textiles under the private sector and two are at Kharadpada under the public sector (one for Information & Technology and the other for gems & jewellery). One SEZ has been notified but none are operating as of 30 October 2011².

Table 3.3: Industry, March 2009 to March 2013

<i>Number of Industrial Units (up to 2005–06)</i>				<i>Enterprises Existing Under MSMED Act 2005 (wef 02/10/2006)</i>				<i>CI `crore</i>	<i>TE `000</i>
<i>Permanently Registered</i>				<i>Micro</i>	<i>Small</i>	<i>Medium</i>	<i>Total</i>		
<i>March, Year</i>	<i>Small-Scale</i>	<i>Medium/Large - Scale</i>	<i>Total</i>						
2009	1,863	407	2,270	201	233	20	454	46.7	57.8
2010	1,863	407	2,270	245	286	27	558	48.4	59.8
2011	1,863	407	2,270	284	317	28	629	49.4	62.3
2012	1,863	430	2,293	337	372	34	743	51.2	64.6
2013	1,683	547	2,230	369	431	36	836	52	67.2

Notes:

Permanently registered means operational under the Small Scale Industry (SSI) registration policy, which was in effect until October 2006. The MSMED Act came into force after that date and small, micro and medium units are registered under that Act.

Definition of Enterprise existing under the Micro, Small and Medium Enterprises Development (MSMED) Act 2005 for manufacturing:

Micro: Investment in plant and machinery does not exceed `25 lakh.

Small: Investment in plant and machinery is greater than `25 lakh but does not exceed `5.0 crore.

Medium: Investment in plant and machinery is greater than `5.0 crore but does not exceed `10.0 crore.

CI stands for Capital Investment.

TE stands for Total Employment

wef stands for with effect from.

Sources: Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014 and previous issues. Socio-Economic Development of Dadra and Nagar Haveli since its Liberation (2012–13). Union Territory of Dadra and Nagar Haveli, Silvassa.

MSMED 2006. <http://msme.gov.in/WriteReadData/DocumentFile/MSMED2006.pdf>.

VAT has been introduced in the territory from 1 April 2005³. Local and Central Sales Tax has been exempted to industry up to the year 2017 or for 15 years, whichever

Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014 and previous issues. Socio-Economic Development of Dadra and Nagar Haveli Since its Liberation (2012–13). Union Territory of Dadra and Nagar Haveli, Silvassa.

² Mansingh, P., S. Eluri, N.P. Sreejesh. 2012. Trade Unions and Special Economic Zones in India.

Centre for Education and Communication (CEC), New Delhi for the ILO Bureau for Workers' Activities (ACTRAV). http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---actrav/documents/publication/wcms_221002.pdf. International Labour Office. March.

³ The source for this paragraph is the following unless mentioned otherwise:

occurs earlier. The administration has streamlined and simplified various procedures to encourage industrial growth. A Single Window System ‘SWIFT’ (Single Window Investor Friendly Time Bound System) has been introduced for prompt disposal of the applications of industrialists and entrepreneurs. Bottlenecks like power shortages are being removed. The Omnibus Industrial Development Corporation set up by the Centre for both Daman and Diu and Dadra and Nagar Haveli is also operating.

The total number of enterprises, both permanent ones and those under the MSMED Act 2006, has increased at a compound annual growth rate (CAGR) of three per cent between March 2009 and March 2013. However, Table 3.3 shows that the number of permanent enterprises has come down. The good news is that the number of medium/large-scale industries increased between 2009 and 2013 but the number of small-scale, permanent enterprises has fallen. Medium/large enterprises show a CAGR of 7.7 per cent between 2009 and 2013. All three categories under the MSMED Act 2006 show a firm upward trend. Total firms under this Act show a CAGR of 16.5 per cent between 2009 and 2013.

The total nominal capital investment rose at a CAGR of 2.8 per cent between 2009 and 2013. However, after deflating using the Wholesale Price Index to get real capital investment, we see that the CAGR between 2009 and 2013 is -4.3 per cent. Employment in industry rose at a CAGR of 3.8 per cent for the same period. Further analysis is needed to analyse the employment elasticity of growth in the UT. Given that the UT has high poverty, this relationship has important implications for it.

The next section analyses the dominant sector, registered manufacturing, in detail, as it is the driving force in the economy.

3.2.1 Registered Manufacturing Sector

3.2.1.1 Definition

The registered manufacturing segment covers all manufacturing factories registered under sections 2m(i) and 2m(ii) of the Indian Factories Act, 1948 which respectively refer to factories employing 10 or more workers and using power or those employing 20 or more workers but not using power on any day of the preceding 12 months and bidi and cigar establishments registered under Bidi and Cigar Workers (Condition of Employment) Act, 1966 and employing 10 or more workers using power or 20 or more workers and not using power. As shown by Table 3.2, the registered manufacturing sector accounts for almost all (99.4 per cent) of the manufacturing sector with unorganised manufacturing having hardly any presence.

3.2.1.2 Growth Dynamics of Registered Manufacturing

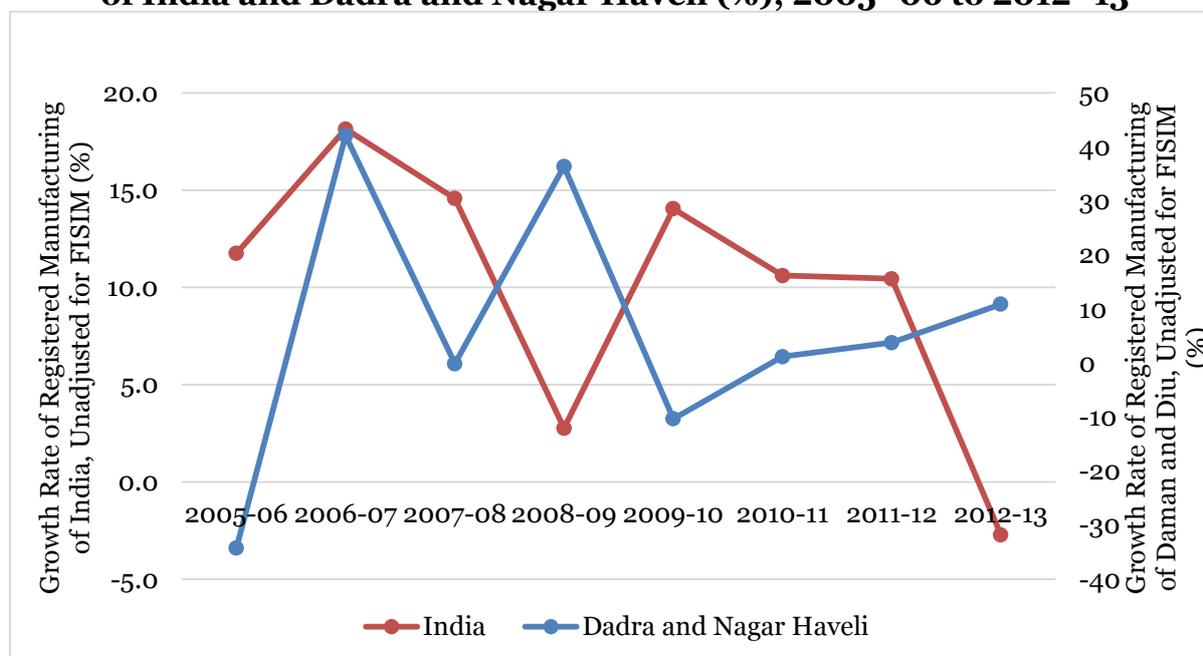
Total registered manufacturing, on average, forms 99.4 per cent of the total manufacturing GVA for the period 2008–09 to 2012–13. Its average growth during 2009–10 to 2012–13 was 1.3 per cent.

Department of Planning and Statistics, Administration of Dadra and Nagar Haveli. 2014 and previous issues. Socio-Economic Development of Dadra and Nagar Haveli Since its Liberation (2012–13). Union Territory of Dadra and Nagar Haveli, Silvassa.

In order to understand the growth dynamics of this very important sector for the UT, it is necessary to examine the sector for a longer period and we start at 2004–05. We use unadjusted registered manufacturing for the UT from the Annual Survey of Industries (ASI), the source of all registered manufacturing data in India and its states⁴. First, on average, registered manufacturing of Dadra and Nagar Haveli forms 1.2 per cent of registered manufacturing of India for the period 2005–06 to 2012–13. The share of the UT in unadjusted registered manufacturing in India has come down from 1.8 per cent in 2005–06 to 1.1 per cent in 2012–13.

The correlation between the growth rates of unadjusted registered manufacturing of India and Dadra and Nagar Haveli is -0.13 for the period 2005–06 to 2012–13. The corresponding correlation for India and Daman and Diu is 0.5 . Figure 3.1 illustrates quite effectively that after 2009–10 Dadra and Nagar Haveli showed a firm upward trend, whereas India was exhibiting a downward trend.

Figure 3.1: Growth Rates of Unadjusted GVA Registered Manufacturing of India and Dadra and Nagar Haveli (%), 2005–06 to 2012–13



Note: The growth rates of Dadra and Nagar Haveli may differ slightly from the ones presented in Table 1.12 because this graph uses unadjusted values. That does not change the interpretations because the differences between the adjusted and non-adjusted values are less than one per cent.
Source: NCAER computations from Annual Survey of India.

The coefficient of variation (CV) of growth of registered manufacturing of Dadra and Nagar Haveli is 3.9 for the period 2005–06 to 2012–13⁵. The corresponding numbers

⁴ Unadjusted means that FISIM (financial services indirectly measured) has not been deducted. FISIM is less than one per cent for both Dadra and Nagar Haveli and India.

⁵ The coefficient of variation (CV), also known as relative standard deviation (RSD), is a standardised measure of dispersion of a probability distribution or frequency distribution. It is defined as the ratio of the standard deviation to the mean (or its absolute value). It shows the extent of variability in relation to the mean of the population. The average growth rate of India of unadjusted registered manufacturing between 2005–06 and 2012–13 was 10 per cent and the standard deviation was 6.8. The corresponding numbers for Dadra and Nagar Haveli are 6.2 and 24.5, respectively. And for Daman and Diu, they are 9.4 and 29.4, respectively. The average mean and standard deviation of

for Daman and Diu and India are 3.1 and 0.7, respectively. If we concentrate on the period between 2008–09 and 2012–13, the CV for Dadra and Nagar Haveli, Daman and Diu and India are 2.1, –11.8 and 1.0, respectively. In contrast to Dadra and Nagar Haveli, both India and Daman and Diu exhibit higher volatility during the period after 2008–09.

These numbers show that the Dadra and Nagar Haveli growth rate, although more volatile than India's, is relatively lower than Daman and Diu's. Second, the dynamics of growth of registered manufacturing in the UT is more affected by its own industrial composition rather than any overall Indian macroeconomic dynamics⁶. The recession in 2009–10 was clearly due to the Great Recession.

We examine the industrial composition of registered manufacturing in the UT. We calculated the CV of the industries that, on average, between 2008–09 and 2012–13 form 80 per cent of the total registered manufacturing in the UT. There are seven NIC 3-digit code industries in this. The average CV of these seven industries is 4.8. Two industries have a very high coefficient of variation for the period of our study. Manufacture of plastic products (10% average share) has a CV of 12.1 and other chemical products (7.9% average share) has a CV of 10.3⁷.

The next section analyses the seven NIC 3-digit code industries in order to better understand the dynamics of manufacturing growth in the UT.

3.2.1.3 Analysis based on 3-digit NIC code

The number of industries has gone down from 34 in 2008–09 to 31 in 2012–13. Between 2008–09 and 2012–13, the number of factories in the UT has gone up from 1,151 to 1,413, showing a CAGR of 5.3 per cent^{8,9}. Out of those 1,413 factories (71.6 per cent) were in operation. The Herfindahl-Hirschman Index (HHI) (Figure 3.2) has declined marginally from 2008–09 to 2012–13. The HHI has fluctuated around

growth of unadjusted registered manufacturing between 2009–10 and 2012–13 for the three territories are: Dadra and Nagar Haveli – 1.4 and 8.8, respectively; Daman and Diu – 6.8 and 16.3, respectively; and India – 8.1 and 7.4, respectively.

⁶ We know from Indian economic history that the period between 2004–05 and 2007–08 was characterised by very high economic growth with GDP growth above 9 per cent for three consecutive years. The year 2008–09 was the year of the Lehman crisis when world economic growth and trade collapsed. India saw a sharp recovery in 2009–10. After growing strongly for two years with the GDP growth rate above 8 per cent, India has significantly slowed down.

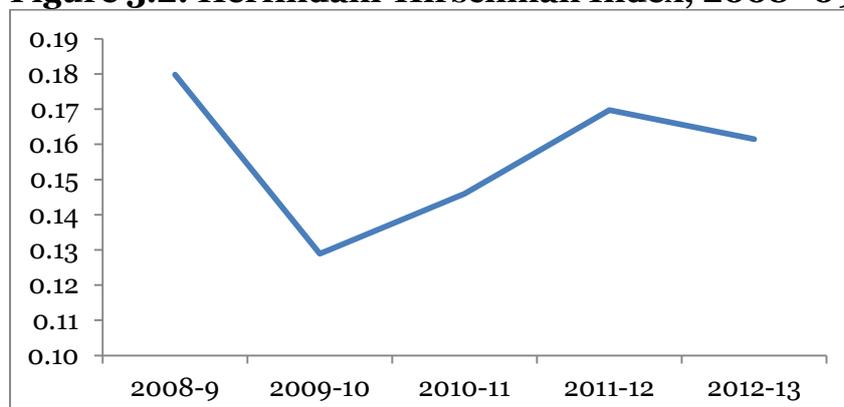
⁷ Manufacture of other chemical products includes manufacture of pesticides and other agrochemical products; manufacture of paints, varnishes and similar coatings, printing ink and mastics; manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations; and manufacture of other chemical products n.e.c. (manufacture of matches; manufacture of essential oils; modification by chemical processes of oils and fats; manufacture of explosives, ammunition and fireworks; manufacture of photographic plates, films, sensitised paper; manufacture of gelatine and its derivatives; manufacture of chemical elements and compounds doped for use in electronics; manufacture of chemical products or preparations of a kind used in the textiles, paper, leather and like industries).

⁸ Significantly, this number differs from the one earlier reported in Table 3.3 from the Statistical Diary of the UT, showing a discrepancy. The medium/large-scale units would be part of the ASI. However, smaller units may not be registered. These statistics need to be consistently reconciled and re-presented for further analysis.

⁹ Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India. Annual Survey of Industries 2012–13, Volume 1. http://mospi.nic.in/mospi_new/upload/asi/ASI_main.htm?status=1&menu_id=88.

0.16, indicating no significant concentration of any industry and no significant change during the duration of our study.

Figure 3.2: Herfindahl-Hirschman Index, 2008–09 to 2012–13



Note: Unadjusted registered manufacturing values have been used to compute shares. The difference between adjusted and unadjusted values is less than one per cent and consists mainly of FISIM.

Source: NCAER computations from Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India. Annual Survey of Industries 2012–13 and various issues. http://mospi.nic.in/Mospi_New/site/home.aspx.

While there may exist more types of industries, essentially seven industries form 80 per cent of the total unadjusted registered manufacturing sector in the UT. Their GVAs are shown in Table 3.4. The most significant industry with the highest average share is spinning, weaving and finishing of textiles. Its labour productivity is relatively lower than for the other six industries. The average growth is 5.6 per cent with relatively low volatility. This is lower than the overall average growth of 8.4 per cent of unadjusted registered manufacturing for this period.

Unfortunately, the other industries show either negative growth rate or high volatility, or show growth for only two periods and negative growth for other two. This is a signal that the UT needs to diversify its industrial base.

Table 3.4: Top Seven Industries (in terms of Share of Registered GVA) in Dadra and Nagar Haveli, 2009–10 to 2012–13

S.No.	Industry Name	NIC Code	Average Share of Industry in Registered Manufacturing between 2009–10 and 2012–13	GVA Growth constant 2004–05 prices (%) between 2009–10 and 2012–13			
				Average*	Standard Deviation*	Coefficient of Variation*	Average Labour Productivity@
1.	Spinning, weaving and finishing of textiles	131	28.7	5.6	15.0	2.7	15.7
2.	Manufacture of basic precious and other non-ferrous metals	242	12.2	-168.4	334.6	2.0	44.5
3.	Manufacture of plastics products	222	10.0	-2.0	24.3	12.1	12.5
4.	Manufacture of pharmaceuticals, medicinal chemical and botanical products	210	9.1	170.3	355.9	2.1	50.5
5.	Manufacture of other chemical products	202	7.9	-1.0	10.8	10.3	27.5
6.	Manufacture of wiring and wiring devices	273	6.6	40.6	83.5	2.1	23.6
7.	Manufacture of refined petroleum products	192	5.5	141.6	304.4	2.2	93.2

Notes: @ Labour Productivity is calculated as total constant GVA divided by the number of man-hours.

* The average, standard deviation and coefficient of variation are calculated for the period 2009–10 to 2012–13.

The share of each sector is calculated as a percentage of unadjusted GVA of registered manufacturing. The difference between unadjusted and adjusted values is less than one per cent and consists of FISIM.

Source: NCAER computations from Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India. Annual Survey of Industries 2012–13 and various issues.

http://mospi.nic.in/Mospi_New/site/home.aspx.

To forge a strategic path forward, it is important to identify in which of these industries Dadra and Nagar Haveli has a comparative advantage within India. We look at comparative advantage in three ways. Further, we analyse the top seven industries for only 2011–12. We use this particular year because comparable data are available from other sources, especially the NSSO, for that year. Further, in contrast to 2009–10, 2011–12 is perceived as a normal year, because the former was just after the Lehman crisis. The three definitions of comparative advantage and their respective interpretations are:

1. Comparative advantage defined in terms of share in manufacturing GVA shows the relative share of a manufacturing group in a state/UT vis-à-vis India. The formula can be written as (GVA of a Manufacturing group in State A/ Total manufacturing GVA in the State)/ (GVA of a Manufacturing group in

Table 3.5: Comparative Advantage of Top Seven (in terms of Share of Registered GVA) Industries in Dadra and Nagar Haveli, 2011–12

S.No.	Industry	NIC Code	In Terms of Share in Manufacturing GVA	In Terms of GVA Per Person Engaged	In Terms of GVA Per Man-hour
1.	Spinning, weaving and finishing of textiles	131	9.9	2.3	2.3
2.	Manufacture of basic precious and other non-ferrous metals	242	8.1	1.1	1.2
3.	Manufacture of plastics products	222	5.3	1.0	1.0
4.	Manufacture of pharmaceuticals, medicinal chemical and botanical products	210	0.5	1.0	1.1
5.	Manufacture of other chemical products	202	1.6	0.8	0.9
6.	Manufacture of wiring and wiring devices	273	7.0	1.0	1.0
7.	Manufacture of refined petroleum products	192	1.0	0.5	0.6

Note: Current values of GVA are used here.

Source: NCAER computations from Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India. Annual Survey of Industries 2012–13 and various issues. http://mospi.nic.in/Mospi_New/site/home.aspx.

India/ Total manufacturing GVA in India). It shows how a state/UT will benefit when the relative price of the manufacturing group changes or when a special package/scheme is announced for a certain group of industries. The results (Table 3.5) would suggest that Dadra and Nagar Haveli has a comparative advantage in all seven industries except manufacture of pharmaceuticals, medicinal chemical and botanical products and manufacture of refined petroleum products. In the latter industry, technically Dadra and Nagar Haveli has neither a comparative advantage nor a disadvantage.

2. Comparative advantage in terms of GVA per person engaged in a state/UT shows labour productivity in a manufacturing group vis-à-vis labour productivity in the manufacturing sector as a whole in the same state/UT versus labour productivity in a manufacturing group in India vis-à-vis labour productivity in the manufacturing sector as a whole in India. The formula can be written as (GVA per labour employed in one manufacturing group in Dadra and Nagar Haveli/GVA per labour employed in all manufacturing in Dadra and Nagar Haveli)/(GVA per labour employed in one manufacturing group in India/GVA per labour employed in all manufacturing in India). Except in spinning, weaving and finishing of textiles and manufacture of basic precious and other non-ferrous metals, the UT does not have a comparative advantage in other industries. In manufacture of other chemical products and

manufacture of refined petroleum products, it has a clear comparative disadvantage.

3. Comparative advantage in terms of GVA per man-days employed shows that man-days of workers can be utilised in the most productive manner. The formula is the same as Formula 2 above except that we use man-days employed instead of persons engaged. The results are the same as in the above measure, except that spinning, weaving and finishing of textiles gets added to the list of industries with a comparative advantage (Table 3.4). Dadra and Nagar Haveli shows a clear comparative disadvantage in manufacture of other chemical products and manufacture of refined petroleum products.

Spinning, weaving and finishing of textiles and manufacture of basic precious and other non-ferrous metals are two industries in which the UT has a clear comparative advantage, whatever metric one uses.

The analysis above indicates that the UT needs to diversify its industrial base further but judging Table 3.5, none of the other industries show any clear potential because growth rates are volatile. One suggestion is the manufacture of pharmaceuticals, medicinal chemical and botanical products. Given the large share of land covered with forests, forest products could potentially be harvested to turn into value-added products.

A more in-depth analysis using plant-level data for a longer period is needed to identify the growth sectors in this economy.

3.2.2 Unregistered Manufacturing Sector

The unregistered manufacturing sector is complementary to the registered manufacturing sector, and by implication covers all units that are not covered under the registered manufacturing sector. In other words, unregistered manufacturing segment covers all the manufacturing, processing, repair & maintenance services units employing fewer than 10 workers (using power) or fewer than 20 workers (not using power). It, by implication, also covers own account enterprises (OAE) engaged in manufacturing activities.

The unregistered manufacturing sector in Dadra and Nagar Haveli forms, on average, barely 0.6 per cent of manufacturing GVA. On average, unregistered manufacturing has grown by 9.8 per between 2009–10 and 2012–13 (Table 3.2). Compared to registered manufacturing, it shows relatively more robust growth. Unregistered manufacturing sector units are concentrated in mainly four manufacturing groups (2010–11)¹⁰ that together comprise 88 per cent of total unregistered manufacturing. The four industries and their individual shares in unregistered manufacturing are: manufacture of chemicals and chemical products & manufacture of pharmaceuticals, medicinal chemical and botanical products (44%); manufacturing of fabricated metal products, machinery & equipment n.e.c. (includes manufacture of general and special purpose machinery) (19.2%); repair and installation of machinery and equipment (15%); and manufacture of paper and paper products & printing and reproduction of recorded media (9.4%). Also, the two industries with the largest shares complement industries in registered manufacturing

¹⁰The data are from the Enterprise Survey of the NSSO for the year 2010–11.

or at least are in similar, if not in the same, industries (Table 3.5, NIC codes 210 and 202).

3.3 Construction

Table 3.6: Distribution of Construction GVA under Various Heads in Dadra and Nagar Haveli, 2008–09 to 2012–13

S.No.	Item	2008–09	2009–10	2010–11	2011–12	2012–13
A.	Share of Construction in GSDP*	0.7	0.8	0.7	1.2	1.1
B.	Share of Construction in Industry*	0.7	0.8	0.8	1.3	1.3
C.	Growth Rate of Construction*	N.A.	4.3	-7.1	83.4	4.3
	Percentage Share in Construction (%)@					
1.	Public Sector	92.3	91.3	79.9	91.8	91.7
1.1	Central Government bodies (% share in public sector)	64.7	64.8	57.8	50.3	49.6
1.2	UT Government bodies (% share in public sector)	28.7	28.7	38.1	41.0	42.9
1.3	Supra-regional Sector (% share in public sector)	0.2	0.1	0.2	0.0	0.1
1.4	NDCUs (State + Centre) (% share in public sector)	6.4	6.4	4.0	8.4	7.1
2.	Household Sector	7.7	8.7	16.3	7.3	7.3
2.1	Rural Residential buildings (% share in household sector)	33.9	33.4	19.1	19.8	19.1
2.2	Urban Residential buildings (% share in household sector)	1.7	1.7	1.0	1.0	1.0
2.3	Non-residential buildings & other construction works (% share in household sector)	60.5	53.0	27.5	37.3	35.3
3.	Residuals	0.0	0.0	3.9	0.9	1.0

Notes: * Using constant 2004–05 prices.

@Using current prices.

Both DCUs and NDCUs are public corporations. Departmental enterprises or DCUs are unincorporated enterprises owned, controlled and run directly by public authorities. These enterprises normally do not hold or manage financial assets and liabilities apart from their working balances and business accounts payables and receivables. Unlike administrative departments, DCUs charge for the goods and services they provide on a commercial basis. DCUs are directly controlled by a ministry or a department. NDCUs may be owned by either the Central or state/UT government.

(http://mospi.nic.in/rept%20%20pubn/sources_methods_2007/Chapter%2027.pdf).

Source: National Accounts Division.

Construction activity consists of contract construction by general builders, civil engineering contractors and special trade contractors. Also included is own account construction carried out by independent units of enterprises or other organisations that are not part of the construction industry proper. Construction work connected with planting and cultivating of new forests, plantations and orchards are also part of Construction.

The construction sector accounts for one per cent of industry GVA in Dadra and Nagar Haveli (on average) and 0.9 per cent of overall GSDP (Table 3.6). The average growth rate has been 21.4 per cent during the period of our study. Despite growth of

construction showing significant volatility, the share of the construction sector has steadily gone up.

The distribution of the construction sector shows that the public sector contributes the maximum to construction GVA and within that Central Government bodies have the larger contribution followed by UT Government bodies. Within the household sector, non-residential buildings and other construction works contributes the most to the GVA followed by rural residential buildings. It is surprising that the share of urban residential buildings is going down during the period of our study despite increasing urbanisation. As mentioned in Chapter 1, the percentage of urban population in DNH went up from 22.8 per cent in 2001 to 46.6 per cent in 2011.

3.4 Electricity, Gas & Water Supply

Table 3.7: Distribution of Electricity, Gas & Water Supply across Sub-Sectors in Dadra & Nagar Haveli, 2008–09 to 2012–13

S.No.	Item	2008–09	2009–10	2010–11	2011–12	2012–13
1.	Electricity, Gas, Water Supply GVA (% of GSDP)*	0.2	0.8	2.0	1.7	1.7
2.	Electricity, Gas, Water Supply GVA (% of Industry GVA)*	0.2	0.9	2.3	1.9	1.9
3.	Growth Rate of Electricity, Gas, Water Supply GVA		258.2	153.4	-11.5	8.7
4.	Electricity GVA ₹lakh (constant 2004–05 prices)	1,499	5,738	14,724	13,018	14,161
5.	Growth Rate of Electricity GVA*		282.8	156.6	-11.6	8.8
6.	Gas GVA ₹lakh (constant 2004–05 prices)	6.0	5.0	6.0	5.0	5.0
7.	Growth Rate of Gas GVA*		-11.8	13.8	-9.1	-7.3
8.	Water Supply GVA ₹lakh (constant 2004–05 prices)	133	123	135	131	137
9.	Growth Rate of Water Supply GVA*		-7.4	9.3	-3.2	4.6
	Share of (%age)@					
10.	Electricity GVA (% of electricity, gas and water supply GVA)	91.5	97.8	99.1	99.0	99.0
A.	NDCU GVA (% of electricity GVA)	79.9	93.0	45.3	75.2	75.2
B.	Centre GVA (% of electricity GVA)	20.1	7.0	54.7	24.8	24.8
11.	Gas GVA (% of electricity, gas and water supply GVA)	0.34	0.08	0.04	0.04	0.03
12.	Water Supply GVA (% of electricity, gas and water supply GVA)	8.1	2.1	0.9	1.0	1.0
A.	Private GVA (% of water supply GVA)	25.8	30.0	24.7	25.8	21.6
B.	Public GVA (% of water supply GVA)	74.2	70.0	75.3	74.2	78.4

Notes: * Using constant 2004–05 prices.

@Using current prices

Source: National Accounts Division.

The economic activities relating to generation, transmission and distribution of electric energy are covered under the electricity sub-sector, the manufacture of gas in gas works including *gobar* gas and distribution through mains to household, industrial, commercial and other users are covered under the gas sub-sector and the

activities associated with collection, purification and distribution of water excluding the operation of irrigation system are covered under the water supply sub-sector.

On average (2008–09 to 2012–13), the sector forms 1.3 per cent of the GSDP and 1.4 per cent of overall industry (Table 3.7). The growth rate exhibits volatility, showing triple-digit growth in 2009–10 and 2010–11, before dipping into negative territory in 2011–12 and then recovering sharply in 2012–13.

3.4.1 Electricity

The electricity sub-sector shows high but volatile growth rates. And it accounts for more than 90 per cent of the GVA of the entire sector of electricity, gas and water supply (Table 3.7). Essentially, the electricity GVA showed significant jumps in 2009–10 and 2010–11¹¹. Within the electricity sub-sector, Non-departmental Commercial undertakings (NDCUs) account for the larger share of the GVA, with the Centre being a minor contributor. The share of the Centre has gone up, while that of the NDCUs has come down. There is no private sector contribution to electricity.

No electricity is generated in the UT. The power supply requirements of the UT are met from its share in Central Generating Stations based on firm and in-firm allocation and other sources. The electricity department of the UT is responsible for distribution and supply of electricity in the Union Territory of DNH. There are about 55,378 consumers spread over various categories. While the high tension (HT) industrial category of consumers are 1.4 per cent of the total number of consumers, they are responsible for 94 per cent of total sales¹².

Census 2011–12 shows that 95.1 per cent of households use electricity as their main source of lighting. The percentages for rural and urban areas are 91.7 and 98.5 per cent, respectively (Chapter 1). All villages and houses are electrified¹³.

3.4.2 Gas

There is gobar gas production in the UT (Table 3.7). Except for 2010–11, gas GVA shows negative growth for three of the four years in constant prices. It barely forms 0.03 per cent of the sectoral GVA and its share has come down over the years.

¹¹ The GVA electricity numbers were sourced from NAD. However, they need to be cross-checked. The numbers from NAD show that GVA nominal estimates at the Centre in 2009–10 was Rs 488 lakh, which increased to Rs 10,030 lakh in 2010–11 before dipping to Rs 4,433 lakh in 2011–12. No explanation has been provided for this sudden increase in GVA by NAD.

¹² Data as per 2010–11 sourced from:

Joint Electricity Regulatory Commission for the state of Goa and Union Territories. 2011. *Petition No. 32/2011 Tariff Order In the matter of ARR and Tariff Determination for the Union Territory of Dadra and Nagar Haveli for the Financial Year 2011–12*. <http://powerdnh.nic.in/>. September 13.

¹³ Socio Economic Development of DNH India –Statistical Abstract: India and SRS Bulletin via Department of Planning and Statistics, U.T. Administration of Daman and Diu, Secretariat Daman. 2014. Statistical Diary 2013–14. August.

3.4.3 Water Supply

The share of water supply as a percentage of sectoral GVA has significantly come down from 8.1 per cent in 2008–09 to one per cent in 2012–13. The public sector dominates (Table 3.7).

As reported in Chapter 1, Census 2011 reports that 26.5 per cent of households use treated tap water for drinking purposes, 20.5 per cent use untreated tap water, 24.5 per cent use hand pumps and 20.6 per cent of households use a tubewell/ borewell¹⁴. There is a gap between rural and urban areas in household amenities. Only 15.8 per cent of rural households have treated tap water in contrast to 35.7 per cent in urban areas. 26.4 per cent of rural households use untreated tap water for drinking in contrast to 14.7 per cent in urban areas. 11.4 per cent of rural households use uncovered wells, 30.1 per cent use hand pumps and 11.7 per cent use a tubewell/ borewell. In contrast, 28.9 per cent of urban households use a tubewell/ borewell versus 19.2 per cent who use a hand pump.

3.5 The Way Forward

Dadra and Nagar Haveli needs to further develop and diversify its industrial base. Right now, one sector dominates slightly less than 30 per cent of its industrial GVA i.e. spinning, weaving and finishing of textiles. Investing in industry will further boost that sector. Also the UT needs to develop linkages with its agrarian sector such as agriculture and forestry. Agro-processing is one such sector that can be encouraged. Using medicinal plants to produce herbal medicines can boost both agriculture and industry. Even within textiles, it can explore other areas.

The UT needs to invest in drinking water and sanitation, which will boost that sector.

¹⁴ Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. <http://www.censusindia.gov.in/2011census/hlo/Houselisting-housing-PCA.html>.

Chapter 4: Services

4.1 Introduction

The services sector covers trade, hotel & restaurants; transport, storage & communications; financing, insurance, real estate & business services; and community, social & personal services. As of 2012–13, the share of the services sector was 9.4 per cent in the UT versus 58.8 per cent for India. On average (2008–09 to 2012–13), the share of the services sector was 9.1 per cent of GSDP. The share of the services sector showed steady increase until 2011–12, falling thereafter (Table 4.1). It is the second largest sector in the UT, falling between industry and agriculture. The average rate of growth in this sector for the period 2009–10 to 2012–13 has been 13.8 per cent. The coefficient of variation is 0.5, indicating low volatility. Therefore this sector is showing robust, positive, double-digit growth.

Table 4.1: Services GSDP, current and constant 2004–05 prices, Share of Services GSDP as a percentage of GSDP and Growth Rate (% change of constant GDP), 2008–09 to 2012–13

<i>Year</i>	<i>Current GSDP (₹lakh)</i>	<i>Constant GSDP at 2004–05 prices (₹lakh)</i>	<i>Share of Services as a percent of GSDP</i>	<i>Growth Rate of Constant Services GSDP</i>
2008–09	76,885	64,620	8.3	N.A.
2009–10	82,562	63,413	8.9	7.4
2010–11	90,459	65,860	9.0	9.6
2011–12	1,09,532	74,384	9.8	21.1
2012–13	1,28,014	79,468	9.4	16.9

Source: NCAER computations.

Regarding the distribution of labour inputs across sectors (Table 1.13), the share of services in total labour inputs decreased between 2004–05 and 2011–12 from 22.7 to 20.7 per cent. Thus, though share in GSDP has increased over the years, share in labour inputs has declined, showing that the relative productivity of the sector has increased. However, labour productivity remained relatively low even in 2011–12, with 9.8 per cent of the GSDP being produced by 20.7 per cent of labour force.

There are four sub-sectors—trade, hotel and restaurants; transport, storage and communications; financing, insurance, real estate and business services; and community, social and personal services. The average (2008–09 to 2012–13) shares of these four sectors in the overall services sectors are 14.0, 12.1, 33.6 and 40.3 per cent, respectively. The average (2008–09 to 2012–13) growth rates of these four sectors are –2.7, 11.3, 11.0 and 2.9 per cent, respectively. The coefficient of variation (CV) used to display the volatility of these sectors shows that community, social and personal services shows the most volatility with the highest CV of 4.7, followed by trade, hotels and restaurants (CV=2.4). Both financing, insurance, real estate and business services and transport, storage and communications have the same volatility (CV=0.4). It is financing, insurance, real estate and business services that has shown an increasing share in the services sector. The rest show stable or declining shares in the services sector.

The rest of the chapter discusses the four sub-sectors in detail.

4.2 Trade, Hotel & Restaurants

There are two sub-sectors within this sector: trade and hotels and restaurants. The trade sector includes wholesale and retail trade in all commodities whether produced domestically, imported or exported. It covers activities of purchase and selling agents, brokers and auctioneers. Wholesale trade covers units that resell, without transformation, new and used goods generally to the retailer and industries, commercial establishments, institutional and professional users or to other wholesalers. Retail trade covers units that mainly resell without transformation new and used goods for personal or household consumption. The retail trade also comprises of maintenance and repair of motor vehicles and repair of personal household goods. The hotels and restaurants sub-sector covers services rendered by hotels and other lodging places, restaurants, cafes and other eating and drinking places. The relative presence of the trade and hotel & restaurants sub-sectors are provided in Table 4.2.

Table 4.2: Trade, Hotel & Restaurants in Dadra and Nagar Haveli, 2008–09 to 2012–13

<i>Year</i>	<i>Trade, Hotels and Restaurants</i>	<i>Trade</i>	<i>Hotels and Restaurants</i>
<i>Share of GSDP (2004–05 prices, %)</i>			
2008–09	1.3	1.2	0.1
2009–10	1.4	1.3	0.1
2010–11	1.3	1.3	0.1
2011–12	1.2	1.1	0.1
2012–13	1.1	1.0	0.1
<i>Share of Services (2004–05 prices, %)</i>			
2008–09	16.2	15.0	1.1
2009–10	15.2	14.2	1.0
2010–11	14.8	13.9	0.9
2011–12	11.9	11.2	0.7
2012–13	11.7	11.1	0.6
<i>Share of Trade, Hotels and Restaurants (constant 2004–05 prices, %)</i>			
2008–09	100.0	93.0	7.0
2009–10	100.0	93.3	6.7
2010–11	100.0	93.9	6.1
2011–12	100.0	93.7	6.3
2012–13	100.0	94.6	5.4
<i>Growth Rate (constant 2004–05 prices, %)</i>			
2009–10	–7.4	–7.1	–12.0
2010–11	0.9	1.6	–7.8
2011–12	–9.0	–9.1	–6.5
2012–13	4.6	5.6	–10.3

Source: NCAER computations from NAD, NSSO.

The average share of trade, hotels and restaurants for the period of our study has been 1.3 per cent of GSDP. As a percentage share of services, it has shown a steady fall from 16.2 per cent in 2008–09 to 11.7 per cent in 2012–13. This is because both trade and hotels & restaurants show a declining share in the services sector. Further,

the trade sector shows no consistent growth trend. However, hotels & restaurants shows consistent negative growth for all four periods between 2009–10a and 2012–13.

Between trade and hotels & restaurants, trade is the larger sector, forming 93.7 per cent (on average) of the overall sector. Hotels and restaurants form, on average, 6.3 per cent of the total sector.

4.2.1 Trade

Trade forms on average 1.2 per cent of the UT's GSDP. On average, it forms 13.1 per cent of the services sector. The share of trade in the services sector has come down steadily. Its growth rate shows significant fluctuations and again there is no definite trend.

4.2.2 Hotels and Restaurants

Hotels and restaurants form, on average, 0.1 per cent of UT's GSDP. On average, it forms 0.9 per cent of the services sector. This sector has been in recession for all four years and shows a steadily declining share in trade, hotels and restaurants.

Tourism data are not directly linked to National Accounts and satellite accounts are prepared for that. However, since hotels and restaurants are so closely linked to tourism, a brief review of the sector is given.

Statistics show weakening of tourist arrivals between 2008 and 2013. Therefore, it is not surprising that the hotels and restaurants sector has shown a downward trend. Foreign tourist arrivals have shown particular worsening. Total tourist arrivals have gone down in the UT at the CAGR of –1.1 per cent between 2008 (5.1 lakh) and 2013 (4.8 lakh)¹. The share of domestic tourist arrivals in those two years was 98.9 and 99.7 per cent, respectively. Domestic tourist arrivals have gone down at the CAGR of –0.96 per cent and foreign tourist arrivals have gone down by –22.7 per cent. The CAGR hides annual variations. Between 2012 and 2013, there was improvement in tourist arrivals, both domestic and foreign. Although there have been some improvements in the five years of the duration of our study, we find that the tourism sector has definitely suffered. In 2013, the UT barely got 0.04 per cent of total domestic tourists in India and 0.01 per cent of foreign tourists. Dadra and Nagar Haveli ranked 28 out of 35 states and UTs in 2013 in domestic tourist arrivals and 33 in foreign tourist arrivals. The corresponding ranks in 2008 were 27 and 25, respectively. Data from 2008 shows the presence of four hotels with 272 rooms. There is one 4-star hotel with 97 rooms and three 3-star hotels with 175 rooms. The 4-star hotel and two 3-star hotels are located in Silvassa.

4.3 Transport, Storage & Communications

The economic activities covered in this sector are (i) transport by railways, (ii) transport by other means, namely, road transport (mechanised and non-

¹ Ministry of Tourism, Government of India. India Tourism Statistics 2009 and 2013. <http://www.tourism.gov.in/market-research-and-statistics>.

mechanised), water transport (coastal, ocean and inland), air transport and services incidental to transport, (iii) storage, and (iv) communication services rendered by Post & Tele-communication Departments and Overseas Communication Services. There is no transport by railway in the UT as all the nearest stations are located in Gujarat (Chapter 1). The UT is dominated by road transport.

The average share of transport, storage and communications is 1.1 per cent of the GSDP of the UT (Table 4.3). The share has gone up steadily from 0.8 per cent in 2008–09 to 1.3 per cent in 2011–12 before declining to 1.2 per cent in 2012–13. The growth rate shows a steady fall since 2010–11. The growth dynamics of this sector are primarily driven by communications (average share, 61.5%). Transport is the next biggest sub-sector (average share 37.8%), followed by storage (average share 0.7%).

Table 4.3: Transport, Storage and Communications in Dadra and Nagar Haveli, 2008–09 to 2012–13

<i>Year</i>	<i>Transport, Storage and Communication</i>	<i>Transport</i>	<i>Storage</i>	<i>Communications</i>
<i>Share of GSDP (2004–05 prices, %)</i>				
2008–09	0.8	0.3	0.01	0.5
2009–10	1.0	0.4	0.01	0.7
2010–11	1.2	0.4	0.01	0.8
2011–12	1.3	0.5	0.01	0.8
2012–13	1.2	0.5	0.01	0.7
<i>Share of Services (2004–05 prices, %)</i>				
2008–09	10.2	3.9	0.1	6.2
2009–10	11.6	4.2	0.1	7.3
2010–11	13.1	4.6	0.1	8.3
2011–12	12.9	4.9	0.1	7.9
2012–13	12.7	5.2	0.1	7.4
<i>Share of Transport, Storage and Communications (constant 2004–05 prices, %)</i>				
2008–09	100.0	38.4	0.7	60.9
2009–10	100.0	36.2	0.7	63.1
2010–11	100.0	35.4	0.7	63.9
2011–12	100.0	38.2	0.7	61.1
2012–13	100.0	40.7	0.7	58.5
<i>Growth Rate (constant 2004–05 prices, %)</i>				
2009–10	11.0	4.4	11.6	15.1
2010–11	17.5	15.0	18.8	18.9
2011–12	11.7	20.4	3.6	6.9
2012–13	5.2	12.2	14.5	0.7

Source: NCAER computations from NAD and NSSO.

4.3.1 Communications

Communications is the dominant sub-sector in this sector. On average, its share has been 61.5 per cent. After peaking in 2010–11 at 63.9 per cent, its share has gone steadily downwards. The average growth is 10.4 per cent. Growth, after peaking in

2010–11, has slid downwards. In 2012–13, its growth was barely 0.7 per cent. Its dynamics drive the growth trend of the overall sector.

However, a qualifier needs to be made. At constant prices, the share of communications is quite high as it is a supra-regional sector where GVA figures at both current and constant prices are provided by the NAD and constant price figures are significantly higher than current price figures.

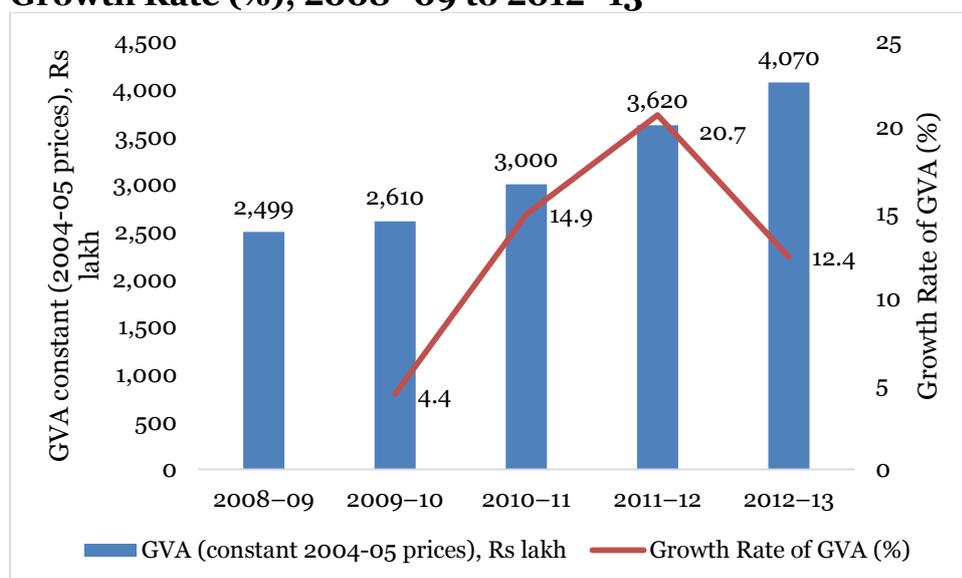
The slowdown in communications is challenging to understand since connectivity is fairly low in the UT and there is a significant gap between urban and rural areas.

4.3.2 Transport

The share of the transport sector, on average, is 37.8 per cent. The share of the transport sector first slowed down from 2008–09 (38.4%) to 2010–11 (35.4%) before showing a steady increase, reaching 40.7 per cent in 2012–13. Its average growth rate is 13 per cent. While there are no definite trends, the sector has had double-digit positive growth for three years, from 2010–11 to 2012–13.

Land transport is the dominant transport, as we know from Chapter 1. It has had double-digit growth since 2010–11. Slight moderation is seen in 2012–13².

Figure 4.1: Land Transport GVA constant (2004–05) prices, Rs lakh and Growth Rate (%), 2008–09 to 2012–13



Source: NCAER computations from NAD and NSSO.

4.3.3 Storage

The share of storage has averaged around 0.7 per cent of the sector. Its average growth rate is 12.1 per cent. Although positive, growth tends to fluctuate and there is no definite trend.

² As a note of caution, the NAD estimates show that the UT has land transport and air transport. However, with no presence of airports, having GVA in air transport raises questions. Therefore, one needs a careful comparison of NAD data with ground realities.

4.4 Financing, Insurance, Real Estate & Business Services

Table 4.4: Financing, Insurance, Ownership of Dwellings, Real Estate and Business Services in Dadra and Nagar Haveli, 2008–09 to 2012–13

<i>Year</i>	<i>Financing, Insurance, Real Estate and Business Services</i>	<i>Banking and Insurance</i>	<i>Real Estate, Ownership of Dwellings and Business Services</i>
<i>Share of GSDP (2004–05 prices, %)</i>			
2008–09	2.4	1.4	1.0
2009–10	2.8	1.7	1.1
2010–11	3.2	2.0	1.1
2011–12	3.5	2.3	1.2
2012–13	3.4	2.3	1.1
<i>Share of Services (2004–05 prices, %)</i>			
2008–09	29.4	16.8	12.6
2009–10	31.9	19.3	12.5
2010–11	35.1	22.4	12.7
2011–12	35.5	23.6	11.9
2012–13	36.2	24.6	11.6
<i>Share of Financing, Insurance, Real Estate and Business Services (constant 2004–05 prices, %)</i>			
2008–09	100.0	57.1	42.9
2009–10	100.0	60.7	39.3
2010–11	100.0	63.8	36.2
2011–12	100.0	66.4	33.6
2012–13	100.0	67.9	32.1
<i>Growth Rate (constant 2004–05 prices, %)</i>			
2009–10	6.5	13.1	–2.4
2010–11	14.5	20.4	5.4
2011–12	14.2	18.8	6.0
2012–13	9.0	11.3	4.3

Source: NCAER computations from NAD and NSSO.

The economic activities covered in this sector are i) banking and insurance and ii) real estate, ownership of dwellings & business services. Sectors covered under banking and insurance are commercial banks, Banking Department of the Reserve Bank of India, Non-Banking Financial Companies/Corporations, Post Office Savings Bank, Co-operative Credit Societies, Life Insurance (Life Insurance Corporation and Postal Life Insurance), Non-Life Insurance, Employees State Insurance (ESI) and Employees Provident Fund Organisation. Real estate services include activities of all types of dealers such as operators, developers and agents connected with real estate. Business services cover renting of machinery and equipment without operator and of personal and household goods; computer and related activities in the private sector; legal services (services rendered by advocates, barristers, solicitors, pleaders, *mukatiars*, etc.); accounting, book-keeping and related activities in the private sector; and research and development, market research and public opinion polling,

business & management consultancy, architectural, engineering & other technical activities, advertising and business activities n.e.c. excluding auctioning. Economic activities covered under ownership of dwellings are ownership of dwellings (occupied residential houses) including imputed value of owner-occupied dwellings. Services rendered by non-residential buildings are considered to be a subsidiary activity of the industries that occupy the buildings and, therefore, are not included in this sector.

This is the second largest sector in the services sector. The share of this sector in GSDP shows a continuous increase between 2008–09 and 2011–12, driven by the increase in banking and insurance (Table 4.4). On average, it formed 3.1 per cent of GSDP and 33.6 per cent of the services sector. For two years, 2010–11 and 2011–12, the sector showed significant double-digit growth. Banking and insurance is its major component and has increasingly formed a larger share of the sector.

4.4.1 Banking and Insurance

The average share of banking and insurance as a percentage of GSDP during the period of our study has been 1.9 per cent (Table 4.5). It shows a steady increase between 2008–09 and 2012–13. The share of banking and insurance has increased in the services sector from 16.8 per cent in 2008–09 to 24.6 per cent in 2012–13. It also shows an increasing share of financing, insurance, real estate and business services, from 57.1 per cent in 2008–09 to 67.9 per cent in 2012–13. The average rate of growth for the period from 2008–09 to 2012–13 has been 15.9 per cent. The sector has enjoyed double-digit growth for all four years, but growth has trended downwards from 2009–10.

4.4.2 Real Estate, Ownership of Dwellings and Business Services

The average share of real estate, ownership of dwellings & business services as a percent of GSDP has been 1.1 per cent during the duration of this study (Table 4.4). Its average growth is 5.2 per cent. Its share in the services sector and in real estate, ownership of dwellings and business services has shown a steady decline.

Within this sector, of the three sub-components, ownership of dwellings is the dominant one (Table 4.5). However, its share has steadily declined while the share of business services has increased. Growth of ownership of dwellings has been slow. The share of real estate remains a minuscule part at 0.2 per cent, although it shows double-digit growth and the most significant growth in this sector. Business services has grown in double digits in 2011–12 and 2012–13.

Within business services, there are five activities (Table 4.6). The dominant sector is computer-related activities followed by accounting. Interestingly, the former shows a falling share and the latter an increasing one. Except for computer-related activities, all sectors within business services are showing double-digit growth.

Table 4.5: Real Estate, Ownership of Dwellings and Business Services in Dadra and Nagar Haveli, 2008–09 to 2012–13

<i>Sector</i>		<i>2008–09</i>	<i>2009–10</i>	<i>2010–11</i>	<i>2011–12</i>	<i>2012–13</i>
<i>Share of Real Estate, Ownership of Dwellings and Business Services (constant 2004–05 Price, %)</i>						
1.	Real Estate	0.1	0.1	0.2	0.2	0.2
2.	Ownership of Dwellings	71.3	71.0	70.1	68.7	66.9
3.	Business services	28.6	28.9	29.8	31.1	32.9
<i>Share of Business Services (constant 2004–05 Price, %)</i>						
3.1.	Renting of Machinery	0.9	1.1	1.2	1.2	1.3
3.2.	Computer-Related Activities	85.6	83.6	82.0	81.5	80.8
3.3.	Legal Activities	0.2	0.3	0.3	0.3	0.4
3.4.	Accounting	9.5	10.8	11.8	12.1	12.4
3.5.	Research and Development	3.7	4.3	4.7	4.9	5.1
<i>Growth Rate (constant 2004–05 Price, %)</i>						
1.	Real Estate, Ownership of Dwellings & Business Services	N.A.	-2.4	5.4	6.0	4.3
2.	Real Estate	N.A.	8.7	23.4	15.2	15.2
3.	Ownership of Dwellings	N.A.	-2.8	4.0	3.9	1.5
4.	Business services	N.A.	-1.5	8.6	10.8	10.5
4.1.	Renting of Machinery	N.A.	12.8	20.2	15.1	15.3
4.2.	Computer-Related Activities	N.A.	-3.7	6.6	10.0	9.6
4.3.	Legal Activities	N.A.	13.6	21.1	15.9	16.0
4.4.	Accounting	N.A.	11.3	18.6	13.6	13.7
4.5.	Research and Development	N.A.	12.9	20.4	15.3	15.4

Source: NCAER computations from NAD and NSSO.

4.5 Community, Social & Personal Services

The economic activities covered in this sector are public administration and other services. Public administration covers value added from three wings of the government, namely, central government administration, state government administration and administration of local bodies. The economic activities covered under other services are (i) coaching and tuition, (ii) education excluding coaching and tuition, (iii) human health activities including veterinary activities, (iv) sewage and refuse disposal, sanitation activities, (v) activities of membership organisations and social work, (vi) recreational, cultural and sporting activities, (vii) washing and cleaning of textiles and fur products, (viii) hair dressing and other beauty treatment, (ix) funeral and related activities, (x) private households with employed person, (xi) custom tailoring, and (xii) extra-territorial organisations and bodies.

This is the largest sector in the services sector and forms on average 40 per cent of the services sector. Interestingly, in 2008–09 it formed 44.3 per cent of the services sector before declining to 37 per cent in 2010–11. The share increased thereafter to 39.4 per cent in 2012–13.

Within the sector, the public sector is dominant, although its share has reduced over time (Table 4.6). In contrast, the share of other services has increased. In 2012–13, the shares were public administration (66.3%) and other services (33.7%).

There are 10 sectors within other services. Education is the dominant sector comprising almost 80 per cent of other services in 2012–13, followed by human health including veterinary services (5.3% in 2012–13).

Table 4.6: Public Administration and Other Services in Dadra and Nagar Haveli, 2008–09 to 2012–13

Sector		2008–09	2009–10	2010–11	2011–12	2012–13
<i>Share of Public Administration and Other Services (constant 2004–05 Price, %)</i>						
1.	Public Administration	82.0	73.5	74.2	72.9	66.3
2.	Other Services	18.0	26.5	25.8	27.1	33.7
<i>Share of Other Services (constant 2004–05 Price, %)</i>						
1.	Education	76.5	81.3	78.4	80.9	80.2
2.	Human Health including Veterinary services	3.8	2.6	3.3	2.7	5.3
<i>Growth Rate (constant 2004–05 Price, %)</i>						
1.	Community, Social & Personal Services	N.A.	–8.0	–7.0	21.0	6.0
2.	Public Administration	N.A.	–18.0	–6.0	19.0	–3.0
3.	Other services	N.A.	35.0	–10.0	27.0	32.0
3.1.	Education	N.A.	43.0	–13.0	31.0	31.0
3.2.	Human Health including Veterinary services	N.A.	–8.0	–13.0	5.0	161.0

Source: NCAER computations from NAD and NSSO.

4.5 The Way Forward

The analysis above shows that the services sector has a long way to go before developing in this UT. Public administration is the dominant sector in the services sector. There is some growth of business services but it is at a nascent stage. The fall in tourism arrivals and its resultant impact on hotels and restaurants show that the UT has not fully developed its potential. Despite the Census showing relatively low levels of connectivity especially in rural regions, communications growth has fallen. This shows that there are many areas of growth that the UT may work on that will propel its growth.

Chapter 5: Strategic Way Forward

5.1 Introduction

Dadra and Nagar Haveli is a land of paradoxes: highly forested land but with industry as the engine of growth. The slowdown in 2009–10 and then the slow recovery in the industrial sector affected the economy significantly. Female labour force participation rate was badly affected. The UT attracts a lot of migrant labour to its industrial sector. At the same time, farmers have dual incomes from industry and the services sector. Scheduled Tribes form a rather significant part of the population but they also bear the burden of poverty. GDP per capita is five times higher than that of India but rural poverty is relatively high. The sex ratio is one of the worst in the country. In 2013, in terms of foreign tourist arrivals it was ranked 33 out of a possible 35 states and UTs. Achievements in human and physical infrastructure are also relatively low except in terms of access to electricity.

What is the way forward?

5.2 Developing Comparative Advantage

Dadra and Nagar Haveli has to recognise its comparative advantages and then work with that. Further, it needs to recognise the inter-linkages of each sector to give a fillip to the economy. The goal is to have sustainable, equitable green growth that provides jobs to all.

1. Agriculture and Forestry
 - a. Farming: While the sector is dominated by small and marginal farmers, a significant share of them have dual jobs. Inputs into farming may be improved. Machinery that can be used on small farms may be introduced to farmers to improve productivity. Producer companies in agriculture may pool land so that agriculture can be practised on larger pieces of land. A more diversified set of products with higher values may be introduced to farmers. Linking the farmers with markets in Vapi may provide additional support. Agricultural extension services need to be encouraged, almost hand-holding them so as to facilitate farming. And last but not least, if somebody wants to leave farming, skill training needs to be provided. Animal husbandry such as egg production may also be encouraged. Organic production needs to be encouraged.
 - b. Agro-processing: Agro-processing should be encouraged to give a fillip to both the agriculture and industrial sectors.
 - c. Forestry: Forestry management needs to be encouraged along with conservation. They go hand-in-hand. It should be linked to tourism such as eco-tourism, forest tourism with forest dwellers or residents need to be roped in as tourist guides for flora and fauna. Medicinal plants that can be harvested from forests may be encouraged. Even reserve forests may have products that may be sold like honey. This boosts both the forests and hotels and restaurants sector.

2. Industry

- a. The UT needs to look beyond NIC code 131, i.e., spinning, weaving and finishing of textiles. Given its comparative advantage there, the UT needs to develop other industries in textiles such as the manufacture of other textiles and the manufacture of wearing apparel. The manufacture of medicinal plants or ayurvedic medicines can be a boost to the traditional sector and industrial sector. Agro-processing such as the production of rice chips and mango drinks and ice-cream with branding will provide substantial value and help market the products. Manufacture of wood and paper products should also be explored.
- b. The skills sector needs to be further enhanced. The UT needs to focus on primary education for all. It should try and open more Industrial Training Institutes (ITIs) given that industry is the biggest sector there. Right now it has only one ITI.

3. Services

- a. Dadra and Nagar Haveli should market itself better as a theme destination for tourists. Showcasing its forests, tribal villages and their products, its natural beauty, a place for treks and hikes and arranging conferences and picnics should be its strategy. The UT should try and develop activities such that people want to spend at least a night in the UT so that they spend more in the UT. Paraphernalia marketing Dadra and Nagar Haveli should be developed such as mugs, magnets, etc. Developing tourism will also have a multiplier effect on the economy.
- b. Business services is at a nascent stage in the UT. However, that can be developed and encouraged as a future sector. The sector is small but showing double-digit growth.
- c. Education is already dominant and that needs to be developed further.
- d. Health, sewage and sanitation services need to be developed.

4. Infrastructure

- a. Roads and road quality need to be improved.
- b. The public transport system needs to be encouraged further.
- c. Water quality needs to be maintained. Drinking water and sanitation needs to be improved. The goal should be to provide piped drinking water and covered sewage facilities to the maximum number of citizens.
- d. ICT facilities need to be improved, especially in rural areas.

5. Developing detailed statistics for more informed policymaking: The ASI covers registered manufacturing. It can be further strengthened by the UT. Dadra and Nagar Haveli needs to be fully representative in the various NSSO surveys. Household surveys are an especially weak point in the UT. Day migration, i.e., workers coming in from Gujarat to work in the UT and going back, needs to be tracked, not for anything else but the need to assess labour productivity for a more careful analysis. These figures are then used to assess comparative advantage and give indications for future policymaking. Faulty numbers can lead to faulty inferences.

6. There is a bias against females that shows up in the child sex ratio and labour force participation. Both education and incentives to hire women may help in shoring up these indicators.

5.3 Conclusions

Dadra and Nagar Haveli needs to work on its social and physical infrastructure. It needs to diversify its industrial base for further development.

Annex 1: Methodology for Compiling State Domestic Product Of Dadra & Nagar Haveli: Sources and Methods

1.1 The estimates of State Domestic Product (SDP) are compiled through a combination of production and income approaches, depending on the data availability at state/Union Territory (UT) level. The SDP estimates by expenditure approach are not compiled, as detailed data required for such compilations, particularly on the inter-state movement of goods and services and exports and imports, are not available. The estimates are compiled by Income Originating Approach (i.e. income generated within a state/UT) and not by Income Accruing Approach (which takes into account income flows across the state/UT or from abroad) due to non-availability of data.

1.2 The standard methodology for compiling the estimates of state/UT income as recommended by the National Accounts Division (NAD) of the Central Statistical Organisation (CSO) is followed by all the states and UTs. These are first compiled at disaggregated level for each economic activity and then aggregated for the whole state/UT. While compiling the estimates of SDP for each economic activity, either the production approach or the income approach or a combination of the two approaches is adopted, depending upon data availability at the state level. The estimates for commodity producing sectors like agriculture, forestry, fishing, mining & quarrying, manufacturing, etc. are prepared through the production approach i.e. measuring the value of output and deducting there from the cost of material inputs used in the process of production. In the services sectors (non-public segment) like trade, transport, hotels & restaurants etc., the estimates are prepared by income approach, specifically, by multiplying the value added per worker by the number of workers, for the benchmark estimates and extrapolating these benchmark estimates with suitable indicators for the annual estimates. The information on value added per worker is obtained from the relevant Enterprise Surveys conducted for the purpose. The estimates of workforce are obtained using the results of large-scale sample surveys on Employment & Unemployment (EUS) conducted by National Sample Survey Organisation (NSSO) and decennial population census carried out in the country by the Office of Registrar General of India (RGI) and Census Commissioner.

1.3 In the preparation of state/UT income estimates, certain activities cut across regional boundaries, and thus their economic contribution cannot be assigned to any one state/UT directly. Such activities are Railways, Communications, Banking & Insurance and Central Government Administration, and are termed as the Supra-regional sectors of the domestic economy. The estimates for these supra regional activities are compiled for the economy as a whole and allocated to the states/UTs by the NAD on the basis of relevant indicators.

1.4 The estimates of consumption of fixed capital (CFC) are compiled at the national level using the estimates of asset wise Net Fixed Capital Stock (NFCS) and average life of asset, following the procedure of perpetual inventory method (PIM). The national level estimates of CFC are allocated to states using appropriate indicators.

The SDP for Dadra and Nagar Haveli is estimated for the period 2008–09 to 2012–13 in both current and constant prices. The base year for computing constant prices

is 2004–05. The rest of the sections describe the methodology in detail. A tabular form of the sources and methods is presented at the end of this section (Table A.1).

ESTIMATES AT CURRENT PRICES

1.5 For agriculture and allied activities, forestry and logging, fishing, mining and quarrying and registered manufacturing, the UT-level data are available from government published databases and all-India estimates are, in fact, prepared as aggregate of UT-level estimates. There is no major mineral activity in this UT and consequently mining and quarrying is left out from the estimates of the Dadra and Nagar Haveli SDP. For other sectors, including unregistered manufacturing, service sectors and supra-regional sectors, estimates are prepared at the UT level by the NAD, using the data available at the UT level. The following paragraphs describe, in brief, the methodology for preparation of the SDP of Dadra and Nagar Haveli from various economic activities.

Agriculture and Allied activities

Agriculture (Proper)

1.6 This activity comprises of agriculture proper, livestock and livestock products and operation of irrigation systems. The economic activities typically included in agriculture proper are:

- (i) growing of field & horticultural crops and seeds;
- (ii) management of tea, coffee and rubber plantations;
- (iii) agricultural and horticultural services on a fee or on contract basis such as harvesting, baling and thrashing, preparation of tobacco for marketing, pest control, spraying, pruning, picking and packing and;
- (iv) ancillary activities of cultivators such as *gur* (jaggery) making, transportation of own produce to primary markets, activities yielding rental income from farm buildings and farm machinery.

Livestock and livestock products include breeding and rearing of animals and poultry besides private veterinary services, production of milk, slaughtering, preparation and dressing of meat, production of raw hides and skins, eggs, dung, raw wool, honey and silk worm cocoons etc.

Operation of irrigation system comprises of supply of water through various government channels to the agricultural producers. Dadra and Nagar Haveli does not have any irrigation system and therefore this item is left out of SDP estimates in this UT.

Agriculture and livestock activities go together as it is not always feasible to segregate the various inputs like livestock feed, repairs and maintenance costs, CFC, financial services indirectly measured (FISIM) etc., into those used in agricultural and livestock production.

1.7 **Agriculture Output:** The estimates of Gross State Domestic Product (GSDP) for this activity are compiled by the production method. As mentioned earlier, the value of output is worked out for agriculture and livestock separately but the value-

added estimates are prepared for the combined activity. The value of output of each crop is obtained as a product of area, yield and price; or production and price as the case may be (Box A.1).

Box A.1: Computation Method of Agricultural Output

Production of a crop or a crop product = Area under the crop *Yield rate per hectare.

Value of output a crop or crop product = Production x Producer prices.

- a) The estimates of area and production of principal crops have been sourced from the NAD¹, details of which are available in table A.1. Farm harvest prices of Dadra and Nagar Haveli for only six crops, namely *Paddy, Ragi, Tur, Udid, Nigarseed, and Varui* are available and are used in estimation procedure. For prices of other crops, data from the neighbouring district of Valsad, Gujarat are used to estimate the output.
- b) For horticultural crops, the information on output and value are sourced from National Horticultural Board, statistics on which are released by the CSO.
- c) Floriculture, production of miscellaneous and unspecified crops are not present in Dadra and Nagar Haveli and therefore are left out of the GSDP estimates.
- d) The output and value of by-products, viz., stalks, straw, etc. are sourced from the NAD.

1.8 For those crops for which production data are available, valuation of crop output is done by multiplying the quantities of production with the corresponding producers' prices.

1.9 Growing of trees on farmland and village common land hitherto in the agriculture sector now forms part of the forestry sector.

Livestock

1.10 The Livestock sector for the purpose of estimation of value of output has been divided into seven broad groups. The groups are:

- Milk
- Eggs
- Meat
- Wool, Hair and Bristles
- Dung
- Silk Worm Cocoons and Honey
- Increment in stock

1.11 As in the case of crops, evaluation of livestock production is done by multiplying the quantities of production by the corresponding producer prices. The data are sourced from various sources and wherever possible have been cross-checked with the data available from the Dadra and Nagar Haveli DES, specifically the annual Integrated Sample Survey (ISS) of the Animal Husbandry Department of Dadra and Nagar Haveli.

¹ Additionally the data has been cross-checked with information provided to us by the Directorate of Economics and Statistics, Government of Daman and Diu.

1.12 **Milk:** Estimates of milk production, milk prices and estimated animals in milk are sourced from the annual Integrated Sample Survey (ISS).

1.13 **Eggs:** Estimates of eggs production and prices are collected from the ISS. Dadra and Nagar Haveli produces both hen and duck eggs.

1.14 **Meat group** comprises meat (beef, mutton, pork including edible offals and glands and poultry meat), meat products (fats, heads, legs) and by-products comprising of hides (cattle and buffalos hides), skins (goat & sheep skin) and other products (guts, blood, bones, horns, hoofs, tail stump, useless meat and oesophagus). The number of animals slaughtered, annual meat production and price estimates have been directly sourced from the ISS. Out of total meat production 7.08 per cent is transferred to manufacturing sector as input and the remaining 92.92 per cent is taken as Gross Value of Meat Output.

1.15 The production and value estimates of other meat products and by-products have been sourced from the NAD for Dadra and Nagar Haveli. The production and value estimates of poultry meat for the UT have also been sourced from the NAD².

1.16 **Wool, hair and bristles:** Both production and value estimates of goat hair and pig bristles have been sourced from the NAD³. This has been cross-checked with the ISS data.

1.17 **Dung:** Both the production and value estimates of production of **dung** have been provided by the NAD. Dung is used as manure as well as fuel. The production and value estimates for each type of use was reported separately by the NAD. In addition, this data was cross-checked with the ISS.

1.18: **Silk Worms Cocoons and Honey:** Only Honey and Bee wax are produced in the UT.

1.19 **Increment in Stock:** The Indian Livestock Census from 2007 and 2012 are used to estimate annual data on population of various categories of Livestock. Data are interpolated for the intervening years using the compound annual growth rate (CAGR) between 2007 and 2012. The prices of livestock are collected from the ISS.

1.20 **Inputs.** Value of intermediate consumption of each of the item is at purchasers' prices and have been collected from the NAD (both current and constant prices). The inputs are:

- a) Seeds
- b) Fertilisers/Manure including pesticides
- c) Fodder, feed of livestock and operational costs of livestock
- e) Market charges
- f) Electricity
- g) Diesel Oil

² The data on other meat products, by-products of the group and poultry meat have been cross-checked with the Dadra and Nagar Haveli DES publications.

³ The data on wool, hair and bristles was cross-checked from the ISS.

h) Repairs and Maintenance

1.21 **FISIM:** The financial intermediary services indirectly measured (FISIM) for the agriculture sector is supplied to the UTs by the NAD.

1.22 The estimates of **CFC** are supplied by the NAD by suitable allocation of national level estimate to the states/UTs.

1.23 **Gross/Net Value Added:** The estimates of Gross Value Added (GVA) are derived as shown in Box A.2.

Box A.2: Gross/Net Value Added in Agriculture

GVA = Value of output of agriculture proper and value of output of livestock and livestock products *minus* the Value of inputs in agriculture *minus* FISIM

Net Value Added (NVA) = GVA *minus* CFC

Forestry and Logging

1.24 The economic activities considered in this activity include

- (i) forestry (e.g., planting and conservation of forests, gathering of forest products, charcoal burning carried out in the forests),
- (ii) logging (e.g., felling and rough cutting of trees, hewing or rough shaping of poles, blocks etc.) and transportation of forest products to the sale depots/assembly centres and,
- (iii) farmyard wood (industrial wood and fuel wood collected by the primary producers from trees outside regular forests).

1.25 The forest products from the above economic activities are classified into two broad groups viz.,

- (a) major products comprising industrial wood (timber, round wood, match and pulpwood) and fuel wood (firewood and charcoal wood) and
- (b) minor products comprising a large number of heterogeneous items such as bamboo, fodder, lac, sandalwood, honey, resin, gum, *tendu* leaves etc.

1.26 Estimates of GVA are prepared following the production method. Gross value of output is estimated separately for

- (a) Industrial wood
- (b) Fuel wood and
- (c) Minor forest products

1.27 Estimates of **industrial wood** are sourced from NAD and cross-checked against Dadra and Nagar Haveli DES.

1.28 The value of **fuel wood** is estimated from the consumption side. The values of per-capita consumption are obtained from the NSSO consumption expenditure surveys of 61st (2004–05) and 68th (2011–12) rounds. “Firewood and chips” is the

comparable item in NSSO versus “fuel wood” in National Accounts Statistics (NAS). Then using population projections from the Census, total consumption of fuelwood for the entire UT is estimated for these two years. These two values are then used to estimate a CAGR, which is in turn used to interpolate and extrapolate the data for the rest of the sample period. For calculating the value of fuel wood at constant prices, we computed the price from the 2004–05 survey using value and quantity estimates. Then to derive the 2011–12 constant value, we multiplied the quantity consumed in 2011–12 (68th round) with the 2004–05 price. After that using CAGR we interpolated and extrapolated the constant values for the whole sample.

1.29 Minor forest products: There are no minor forest products in Dadra and Nagar Haveli.

1.30 In the absence of information on inputs, 10 per cent of the value of output is taken as inputs. FISIM is made available by NAD and is subtracted from the value of output to obtain the GVA. The NVA is obtained by subtracting CFC from the GVA.

Fishing

1.31 The activities covered in fishing are:

- (a) commercial fishing in
 - i. ocean, coastal and offshore waters and
 - ii. inland waters, that include catching, tackling and gathering of fish from rivers, irrigation and other canals, lakes, tanks, fields inundated tracts etc.,
- (b) subsistence fishing in inland waters and artificial ponds;
- (c) gathering of sea weeds, sea shells, pearls, sponges and other ocean and coastal water products and;
- (d) fish curing viz., salting and sun-drying of fish.

1.32 Estimates of GVA of this activity are prepared using the production method. Gross value of output is estimated from output and prices of inland, marine fish and prawns/shrimps as furnished by the Directorate of Fisheries of Dadra and Nagar Haveli. There is production of only Inland fish in the UT. The DES has provided an estimate of total fishing and no disaggregation between inland fish and subsistence fish are available.

1.33 The value of inputs and operational costs is taken as 10 per cent, and 22.5 per cent of the value of output for inland fish, and subsistence fish respectively, as supplied by the NAD. Estimates of FISIM and CFC are supplied by the NAD.

1.34 The GVA/NVA are derived using the same method as Agriculture.

Mining and Quarrying

1.35 The economic activities covered in this activity comprise extraction of minerals which occur in nature as solids, liquids or gases; underground and surface mines, quarries and oil wells, with all supplementary operations for dressing and beneficiating ores and other crude minerals such as crushing, screening, washing, cleaning, grading, milling, floatation, melting, pelletizing, topping and other preparations needed to render the material marketable.

1.36 Estimates of GVA in this industry are compiled following the production method by calculating the value of output of each mineral in the state and deducting there from the value of corresponding inputs.

1.37 There is no mineral extraction in Dadra and Nagar Haveli.

Manufacturing (registered)

1.38 Manufacturing process, in general, is defined as any process for making, altering, repairing, finishing, packing, oiling, washing, cleaning, breaking up, demolishing or thereby treating or adapting any article or substance with a view to its use, sale, transport, delivery or disposal.

1.39 For the purposes of estimation of GVA, the entire manufacturing activities are classified into two broad segments, namely, manufacturing - 'registered' and unregistered'. The registered manufacturing segment covers all manufacturing factories registered under sections 2m(i) and 2m(ii) of the Indian Factories Act, 1948 which respectively refer to the factories employing 10 or more workers and using power or those employing 20 or more workers but not using power on any day of the preceding 12 months and *bidi* and cigar establishments registered under Bidi and Cigar Workers (Condition of Employment) Act, 1966 and employing 10 or more workers using power or 20 or more workers not using power.

1.40 A 'factory' or an 'establishment', in the context of registered manufacturing, is defined as any premises including the precincts thereof (i) whereon 10 or more workers are working or were working on any day of the preceding 12 months, and in any part of which a manufacturing process is carried on with the aid of power or is ordinarily so carried on or (ii) whereon 20 or more workers are working or were working on any day of the preceding 12 months, and in any part of which a manufacturing process is being carried on without the aid of power or is ordinarily so carried on - but does not include a mine subject to the operation of the Mines and Minerals (Regulation and Development) Act, 1957 or a railway running shed.

1.41 Estimates of GVA for registered manufacturing are prepared by following the production method. The industry-wise estimates for the compilation categories in the 2008 series are prepared on the basis of results of Annual Survey of Industries (ASI). In that, the "others" category has been left out because there is no compilation category code for them. Data at 3-digit level were used from the ASI. These estimates are adjusted for FISIM supplied by the NAD. The CFC is subtracted to derive the estimates of NVA. The estimates of FISIM/CFC are sourced from the NAD. However, trend analysis was used to make adjustment to the NAD numbers in 2008–09 and 2009–10.

Manufacturing (unregistered)

1.42 The unregistered manufacturing segment covers all the manufacturing, processing, repair & maintenance services units employing less than 10 workers (using power) or less than 20 workers (not using power). It, by implication, also covers own account enterprises (OAE) engaged in the manufacturing activities.

1.43 The estimates of GVA from manufacturing (Unregistered) are compiled using the workforce approach i.e. multiplying the workforce engaged in manufacturing unregistered by the value added per worker (VAPW).

- a) The estimates of Labour inputs are based on the Employment Unemployment Surveys of NSS relating to 61st (2004–5) and 68th (2011–12) rounds and population censuses 2001 and 2011.
- b) The estimates of Value Added per Worker (VAPW) are based on the Enterprise Surveys of NSS relating to 62nd (2005–6) and 67th (2010–11) rounds.

1.44 Labour inputs figures of compilation categories for 2008–09 to 2012–13 for Dadra and Nagar Haveli are estimated through interpolation and extrapolation of 2004–5 and 2011–12 (see Table A.1 for details of compilation categories). First step has been to estimate the labour input figures from NSSO for the years 2004–05 and 2011–12. An adjustment is made to the labour input figures by multiplying with the ratio of Census population to the NSSO estimated population of the UT. Then using CAGR the figures for the remaining sample period are interpolated and extrapolated.

The VAPW of compilation categories for 2005–6 to 2010–11 using NSSO Enterprise survey data are estimated. Then using CAGR to interpolate and extrapolate, the data for the remaining sample period is estimated. As mentioned above the VAPW and its respective labour input figures are multiplied together to derive the GVA.

In case labour inputs data for a compilation category sector are available and corresponding VAPW data are not available (due to smaller sample and that sector not included in the sample), figures from Daman and Diu has been used. If VAPW figure for both the UTs are not available, that of adjoining state Gujarat has been used. Rural and urban estimates are estimated separately before aggregating. These estimates are adjusted for FISIM supplied by the NAD. The estimates of CFC supplied by the NAD to the states/UTs are subtracted to arrive at the NVA.

Electricity, Gas and Water Supply

1.48 The economic activities relating to generation, transmission and distribution of electric energy are covered under the electricity sub-sector, the manufacture of gas in gas works including *gobar* gas and distribution through mains to household, industrial, commercial and other users are covered under the gas sub-sector and the activities associated with collection, purification and distribution of water are covered under water supply sub-sector.

1.49 **Electricity:** The estimates of GVA in this sub-sector are prepared using the income method. The estimates are based on the analysis of annual accounts of State Electricity Boards and other electricity undertakings located in the State. The value added estimates of central undertakings, viz. National Thermal Power Corporation, National Hydro Power Corporation and Power Grid Corporation made available by the NAD are also added. These estimates have been supplied by the NAD.

1.50 **Gas:** The Gas sub-sector comprises *Gobar* Gas and other Gas. The estimates of *Gobar* Gas are compiled using data available from the Ministry of Non-Conventional Energy Sources and Khadi & Village Industries Commission (KVIC). In the absence of input structure, the gross value of output of *Gobar* Gas is treated as value added,

on the assumption that the value of *Gobar* used in manufacturing of Gas also results in equivalent value of by-products in the form of indigenous fertilisers (manure). The estimates of GVA in respect of *Gobar* Gas are prepared on the basis of value of production per plant (estimated on the basis of KVIC data) multiplied by total number of plants installed up to the current year, as furnished by Ministry of Non-Conventional Energy Sources. The estimates of GVA in respect of 'other gas' compiled by the NAD, using the data supplied by Gas Authority of India Limited, are also added.

Data for *Gobar* Gas have been made available by the NAD. There is no other activity in this sector.

1.51 Water Supply: The estimates of GVA for water supply are compiled for the public and private sectors separately following the income method. Data for both public and private sectors are made available by the NAD. The estimates of CFC supplied by the NAD are subtracted to derive the NVA.

Construction

1.52 The construction activity as per the International Standard Industrial Classification (ISIC) adopted in the System of National Accounts (SNA) consists of contract construction by general builders, civil engineering contractors and special trade contractors. Also included is own account construction carried out by independent units of enterprises or other organisations, which are not part of the construction industry proper. But, owing to the problems of availability of data separately for units carrying out construction work, construction industry, for the purpose of estimating domestic product, is taken to include the whole of construction activity (contractual as well as own account) including construction work connected with planting and cultivating of new forests, plantations and orchards. Thus the scope of the industry is wider than that outlined in the NIC, 2008. Due to lack of data, demolition activities have, however, been excluded.

1.53 The estimates of value added from construction activity are prepared independently for the following categories by adopting expenditure method, i.e. by taking into account the expenditures made on construction. There are three main sectors in construction:

(i) Public sector covering

- (1) State government administrative departments, local bodies, all state departmental enterprises both of states and local bodies;
- (2) Central government administrative departments and departmental enterprises other than railways and communication and repair and maintenance expenditure in respect of Defence Services;
- (3) Communications; and
- (4) Non-departmental commercial undertakings excluding air and water transport, banking and insurance (only capital expenditure).

(ii) Household Sector covering

- (1) Rural residential buildings,
- (2) Urban residential buildings,
- (3) Rural non-residential buildings,

- (4) Urban non-residential buildings, and
- (5) Rural and urban other construction works in the household sector.

(iii) Residual comprising of construction undertaken by private corporate sector, other private un-incorporated enterprises and private non-profit institutions including quasi corporate bodies, besides part of public sector namely, air and water transport, banking and insurance, public non-profit institutions including quasi-Government bodies, and the entire repair and maintenance expenditure in respect of non-departmental commercial undertakings.

1.54 The disaggregated estimates of GVA/NVA for total public and household sectors are sourced from the NAD.

Service Sectors

Trade, Hotels and Restaurants

1.55 The Trade sector includes wholesale and retail trade in all commodities whether produced domestically, imported or exported. It covers activities of purchase and selling agents, brokers and auctioneers. Wholesale trade covers units, which resell without transformation, new and used goods generally to the retailer and industries, commercial establishments, institutional and professional users or to other wholesalers. Retail trade covers units, which mainly resell without transformation new and used goods for personal or household consumption. This sector, now, also comprises of maintenance and repair of motor vehicles and repair of personal household goods. As per NIC 2008 classification, this sector consists of following five categories:

- Maintenance and repair of motor vehicles;
- Sale of motor vehicles;
- Wholesale trade except of motor vehicles plus Auctioning activities;
- Repair of personal household goods; and
- Retail trade (except motor vehicles)

The hotels and restaurants sector covers services rendered by hotels and other lodging places, restaurants, cafes and other eating and drinking places.

1.56 The estimates of GVA for this segment of activities are prepared separately for public, private organised and private un-organised parts.

(i) Public sector data on trade has been sourced from the NAD. There is no public sector data on hotels and restaurants in this UT.

(ii) Private organised segment: The estimates for trade has been sourced from the NAD. Here too private organised data on hotels and restaurants are neither available from NAD, nor NSSO nor DES.

(iii) Private un-organised segment: GVA estimates are prepared as per the compilation categories provided by the NAD (see Table A.1 for details).

Trade: The estimates of private un-organised sector of Trade sub-sector for respective years are estimated by multiplying labour inputs data obtained from NSSO EUS 61st and 68th rounds & Population census 2001 and 2011 (through

interpolation and extrapolation) and VAPW data obtained from NSSO Enterprise Survey (ES) 55th round (in case of trade 55th round data was taken as trade was not covered in 63rd round) and 67th rounds (through interpolation and extrapolation). First step has been to estimate the labour input figures from NSSO for the years 2004–05 and 2011–12. An adjustment is made to the labour input figures by multiplying these with the ratio of Census population to the NSSO estimated population of the UT. Adjusted labour inputs figures are multiplied with VAPW to arrive at GVA. The estimates are calculated separately for the rural and urban sectors before aggregation.

Hotels and Restaurants: The estimates of private un-organised sector of Hotels and Restaurants for respective years are estimated by multiplying labour inputs data obtained from NSSO EUS 61st and 68th rounds & Population census 2001 and 2011 (through interpolation and extrapolation) and VAPW data obtained from NSSO Enterprise Survey (ES) 63rd and 67th rounds (through interpolation and extrapolation). Same process is used as trade to estimate GVA for the compilation categories.

Transport, Storage and Communication

1.57 The economic activities covered in this sector are

- i. Transport by railways,
- ii. Transport by other means, namely, road transport (mechanised and non-mechanised), water transport (coastal, ocean and inland), air transport and services incidental to transport,
- iii. Storage, and
- iv. Communication services rendered by Post & Tele-communication Departments and Overseas Communication Services.

There is no railway transport in the UT.

The methodology for compiling the estimates for other activities under this group is discussed below.

Transport by other means:

1.58 Mechanised road transport (Public sector): There is no public sector road transport in Daman and Diu.

1.59 Mechanised road transport (Private sector): GVA estimates are prepared as per the compilation categories provided by the NAD (see Table A.1 for details). The state-wise estimates of GVA at current prices are prepared activity-wise by multiplying labour input with GVA per worker separately for the rural and urban areas for each year. Labour inputs are adjusted by multiply the Census to NSSO estimated population ratio. The adjusted labour inputs data obtained from NSSO EUS 61st and 68th rounds (through interpolation and extrapolation) are multiplied by the VAPW data obtained from NSSO Enterprise Survey (ES) 63rd and 67th rounds (through interpolation and extrapolation) to estimate the GVA in this sector.

1.60 Non Mechanised Transport: Same procedure is adopted as private mechanised road transport.

1.61 **Water transport:** No water transport exists in Dadra and Nagar Haveli

1.62 **Air Transport:** No air transport exists in the UT.

1.63 **Storage:** This is an exclusively public sector in the UT. The GVA estimates have been sourced from the NAD.

1.64 **Communication:** This is a supra-regional sectors and the GVA estimates are supplied by the NAD.

Banking and Insurance

1.65 This is a Supra regional sector and estimates of GVA are supplied by the NAD.

Real Estate, Ownership of Dwellings, Business Services and Legal Services

1.66 The economic activities covered in this sector are

- (1) Real Estate Services activities of all types of dealers such as operators, developers and agents connected with real estate.
- (2) Renting of machinery and equipment without operator and of personal and household goods
- (3) Computer and related activities: The activities covered under this compilation category are hardware consultancy, software consultancy & supply, data processing, database activities, maintenance & repair of office/accounting/computing machinery and other computer-related activities.
- (4) Accounting, book Keeping and related activities
- (5) Legal Services
- (6) Scientific Research and development and
- (7) Ownership of dwellings (occupied residential houses).

1.67 GVA estimates are prepared as per the compilation categories provided by the NAD (see Table A.1 for details) for items one through six. The major data sources for estimating the GVA of these sectors are NSSO 61st and 68th round Employment and Unemployment survey and NSSO 63rd and 67th round Enterprise Survey (ES) in rural and urban areas. After estimating the labour inputs from the NSSO for the two years 2004–05 and 2011–12, we adjust them by multiplying with the Census to NSSO population ratio. The GVA estimates are done by multiplying labour inputs data obtained from NSSO EUS 61st and 68th rounds (through interpolation and extrapolation) and VAPW data obtained from NSSO Enterprise Survey (ES) 63rd and 67th rounds (through interpolation and extrapolation).

1.68 **Ownership of Dwellings:** In the production boundary of national accounts, only two categories of services produced by households for own final consumption are included, namely,

a) Services of owner-occupied dwellings: Owner-occupiers are deemed to own household unincorporated enterprises that produce housing services for their own consumption; and

b) Domestic services produced by employing paid staff: Households are deemed to own household unincorporated enterprises in which they employ paid staff – servants, cooks, gardeners, etc. – to produce services for their own consumption.

Data on ownership of dwellings have been provided by the NAD.

Public Administration

1.69 The GVA is estimated by the ‘Income Approach’. The compensation of employees is the only factor income, as operating surplus of administrative departments is treated as nil, being the provider of non-market services. Central and regional government estimates are done separately with the former being a supra-regional sector.

The central government, aggregate (centre plus UT) GVA, NVA and CFC estimates have been sourced from the NAD.

Other Services

1.70 The economic activities covered under this sector are:

- (i) Coaching and Tuition
- (ii) Education excluding Coaching and Tuition
- (iii) Medical & health
- (iv) Sewage and refuse disposal, sanitation activities
- (v) Activities of membership organisations
- (vi) Recreational cultural and sporting activities
- (vii) Washing and cleaning of textiles and fur products
- (viii) Hair Dressing and other Beauty Treatment
- (ix) Funeral and related activities
- (x) Private households with employed persons
- (xi) Custom Tailoring
- (xii) Extra-Territorial Organisations and Bodies

1.71 All the activities are broadly grouped under three segments, namely,

- (a) public sector,
- (b) private organised sector, and
- (c) private unorganised sector.

1.72 Public sector GVA estimates are sourced from NAD.

1.73 Generally, the GVA estimates for non-public sector segments are prepared separately for organised and unorganised segments as per the compilation categories provided by the NAD (see Table A.1 for details). The state-wise estimates of GVA at current prices are prepared activity-wise by multiplying labour input with GVA per worker separately for the rural and urban areas for each year. The estimates are

done by multiplying adjusted labour inputs (labour inputs are adjusted by multiplying the NSSO labour inputs with the Census to NSSO population ratio of Daman and Diu) data obtained from NSSO EUS 61st and 68th rounds (through interpolation and extrapolation) and VAPW data obtained from NSSO Enterprise Survey (ES) 63rd and 67th rounds (through interpolation and extrapolation).

1.74 Extra Territorial Organisations and Bodies: The activities covered in this category are extra territorial organisations and bodies (includes the activities of international organizations such as United Nations and its agencies, regional bodies etc., IMF, World Bank, European Commission, etc.). The estimates of these services are supplied by the NAD.

ESTIMATES AT CONSTANT PRICES

1.75 The methodology for estimating SDP at constant prices for different sectors is as follows:

(i) Agriculture & Allied Activities, Forestry & Logging, Fishing and Mining & Quarrying: The GVA estimates at constant prices are worked out by evaluating the current year production/output at the base year (2004–05) prices and by using the deductible/input rates as applicable for the current price estimates.

(ii) Manufacturing–Registered and Unregistered: The Industry group wise estimates at current prices are deflated with the corresponding sectoral Wholesale Price Index (WPI) to arrive at the estimates at constant prices.

(iii) Electricity: The estimates at current prices have been deflated by the implicit price deflator of that sector at the all India level.

(iv) Water Supply: The estimates of GVA at constant prices are worked out by deflating current price figures with CPI (AL) and CPI (IW). Since CPIs of these two UTs are not available, CPI (AL) of Gujarat and CPI (IW) of Surat are used.

(v) Construction: The estimates of GVA at constant prices for public sector are prepared by deflating the current price by the implicit price deflator of public part of that sector at all India level. For private sector the CPI (AL) of Gujarat for rural areas and CPI (IW) of Surat for urban areas have been used as deflator.

(vi) Trade, Hotels and Restaurants: The current price estimates in respect of public sector are deflated by the implicit price deflator of the public part of that sector at the all India level. For private sector the CPI (AL) of Gujarat for rural areas and CPI (IW) of Surat for urban areas have been used as deflator.

(vii) Transport Storage and Communication: Same procedure is adopted as in case of Trade, hotel and restaurants.

(viii) Real estate, business services and legal services: The estimates of GVA at constant prices are worked out by deflating current price figures with CPI (AL) of Gujarat for rural areas and CPI (IW) of Surat for urban areas.

(ix) **Public Administration:** The current price estimates are deflated by the implicit price deflator of that sector at the all-India level.

(x) **Other Services:** The current price estimates in respect of public sector are deflated by the implicit price deflator of public part of “other services” at the all India level. For the private sector the CPI (AL) of Gujarat for rural areas and CPI (IW) of Surat for urban areas have been used as deflator.

1.76 Gross State Domestic Product: The sum of the GVA of all economic activities within the UT is the Gross State Domestic Product (GSDP).

The GSDP – CFC is the Net State Domestic Product (NSDP).

The GSDP/NSDP divided by the mid-year population is the per capita GSDP/NSDP.
by the mid year population is the per capita GSDP/NSDP.

Table A.1 Sources and Methods of Dadra and Nagar Haveli

Item	Source of Data	Assumption/method of estimation	
		At current prices	At constant (2004-05) prices
1. Agriculture, including livestock			
(a) Value of output – (1) Major and minor crops			
(i) Major crops (paddy, wheat, <i>jowar</i> , maize, ragi, gram, tur, sesame, nigerseed , sugarcane)	<ul style="list-style-type: none"> ◆ Area and Yield: NAD and Directorate of Economics & Statistics (DES), Government of Dadra and Nagar Haveli ◆ Prices: DES of Dadar and Nagar Haveli for six crops, namely <i>Paddy, Ragi, Tur, Udid, Nigerseed, and Varui</i>; and DES of Gujarat specifically the Valsad district for all the remaining crops 	Value of output = production * current year producer price	Value of output = production * base year price
(ii) Minor crops (potato, onion, sweet potato, tomato)	<ul style="list-style-type: none"> ◆ Output and value taken from the National Horticulture Board (NHB) statistics published by the CSO 	Taken from the publication directly	- Same as above-
(iii) Small millets (includes korra, vargu, samai, cheena, save, banti, etc)	<ul style="list-style-type: none"> ◆ DESAg for production/NA Output and value taken from the National Horticulture Board (NHB) statistics published by the CSO 	Taken from the publication directly	- Same as above-
(iv) Horticulture crops (other than those covered in the minor crops) are Brinjal, Cabbage, Okra, Cauliflower, Sapota, Mango and Banana	<ul style="list-style-type: none"> ◆ Output and value taken from the National Horticulture Board (NHB) statistics published by the CSO 	Taken from the publication directly	- Same as above-
(3) By-products <i>Paddy straw, wheat straw, jowar straw, maize straw, ragi straw,</i>	<ul style="list-style-type: none"> ◆ Output and value taken from the NAD 	Taken from the publication directly	- Same as above-

Table A.1: Sources and Methods

Item	Source of Data	Assumption/method of estimation	
		At current prices	At constant (2004-05) prices
gram straw, <i>arhar</i> sticks, <i>urad</i> straw, sugarcane trash, sesame sticks			
(4) Livestock products			
(i) Milk, eggs and wool	<ul style="list-style-type: none"> ◆ Milk and Eggs: Integrated Sample Survey (ISS) conducted by the Department of Animal Husbandry and Dairying (DAHD) ◆ Wool: NAD and ISS ◆ UT DESs and NAD for prices 	Taken from the publication directly	- Same as above-
(ii) Meat, meat products and meat by-products	<ul style="list-style-type: none"> ◆ ISS ◆ NAD 	Taken from the publication directly	- Same as above-
(iii) Poultry meat	<ul style="list-style-type: none"> ◆ Indian livestock census for population/NAD ◆ UT DES for prices 	Taken from the publication directly	- Same as above-
(iv) Dung			
(a) Dung cakes/fuel	<ul style="list-style-type: none"> ◆ NAD and DES 	Taken from the publication directly	- Same as above-
(b) Dung manure			
(v) Increment in livestock	<ul style="list-style-type: none"> ◆ Indian Livestock Census for population/NAD ◆ UT DES for prices 	Taken from the publication directly	- Same as above-
(b) Inputs			
(i) Seeds	<ul style="list-style-type: none"> ◆ NAD 	Taken directly	Taken directly
(ii) Fodder/Feed of livestock and operational costs for livestock	<ul style="list-style-type: none"> ◆ NAD 	Taken directly	Taken directly
(iii) Fertilisers, Manure including pesticides	<ul style="list-style-type: none"> ◆ NAD 	Taken directly	Taken directly
(iv) Repair and maintenance	<ul style="list-style-type: none"> ◆ NAD 	Taken directly	Taken directly
(v) Electricity	<ul style="list-style-type: none"> ◆ NAD 	Taken directly	Taken directly
(vi) Diesel oil	<ul style="list-style-type: none"> ◆ NAD 	Taken directly	Taken directly
(vii) Market charges for crops	<ul style="list-style-type: none"> ◆ NAD 	Taken directly	Taken directly
2. Forestry			

Table A.1: Sources and Methods

Item	Source of Data	Assumption/method of estimation	
		At current prices	At constant (2004-05) prices
Value of output (1) Industrial wood	<ul style="list-style-type: none"> ◆ NAD ◆ Dadra and Nagar Haveli DES 	Value of output = production * current year price	Value of output = production * base year price
(2) Fuel wood	<ul style="list-style-type: none"> ◆ NSS Consumer Expenditure Surveys, 61st round (2004-05) and 68th rounds (2011-12) for rates of consumption of firewood & chips by the households, moved for the current year ◆ Office of the Registrar General of India for population projections 	Total production of fuelwood = rates of consumption per person * population (separately for rural and urban)	Value of output = production * base year price
Inputs of forestry sector	<ul style="list-style-type: none"> ◆ NAD 	Value of inputs = 0.1 *total value of output	Value of inputs = 0.1 *total value of output
3. Fishing			
Value of output (1) Total Fishing =Inland fish plus subsistence fishing	<ul style="list-style-type: none"> ◆ Quantity and value from Directorate of Fisheries of Dadra and Nagar Haveli 	Taken directly	Value of output = production * base year price
Inputs (2) Inland fish	<ul style="list-style-type: none"> ◆ NAD 	Value of inputs = 0.1 * value of output of total production of inland fish	Value of inputs = 0.1 * value of output of total production of inland fish at base year prices
4. Mining and Quarrying- Not Present			
5. Manufacturing			
1. Registered Manufacturing	<ul style="list-style-type: none"> ◆ CSO for ASI ◆ M/Industry for the WPI 	<ul style="list-style-type: none"> ◆ GVA are from the ASI. 	<ul style="list-style-type: none"> ◆ Current price estimates are deflated with the corresponding sectoral WPI.
2. Unregistered Manufacturing NIC 2008 Codes – 10,11, 13, 15, 17 to 22, 25, 26, 28, 32 and 33	<ul style="list-style-type: none"> ◆ Surveys on unorganised manufacturing sector conducted by the NSSO, 2005-06 and 2010-11 for VAPW ◆ NSS Employment Unemployment Surveys 	<ul style="list-style-type: none"> ◆ Labour inputs and VAPW for relevant years are estimated through interpolation and extrapolation of available NSSO EUS and Enterprise Survey (ES) data and Census. ◆ Estimates of GVA for compilation 	<ul style="list-style-type: none"> ◆ Current price estimates are deflated with the corresponding WPI.

Table A.1: Sources and Methods

<i>Item</i>	<i>Source of Data</i>	<i>Assumption/method of estimation</i>	
		<i>At current prices</i>	<i>At constant (2004-05) prices</i>
	2004–05 and 2011–12 and Population Census 2001 and 2011 for for labour inputs estimates ◆ M/Industry for the WPI	categories done by multiplication of Labour inputs and VAPW of respective years.	
6. Electricity, gas and water supply			
(1) Electricity	◆ NAD	◆ Taken directly	◆ Current price estimates are deflated with the implicit price deflator at the all India level.
(2) Water – public and private	◆ NAD	◆ Taken directly	◆ Current price estimates are deflated with the implicit price deflator at the all India level.
8. Construction			
Household sector			
◆ Rural residential buildings (RRB) (new construction outlays)			
◆ RRB-repair and maintenance (R&M)			
◆ Urban residential buildings (URB) (new construction outlays)	◆ NAD	◆ Taken directly	Deflated by index of CPI (AL) of Gujarat for rural areas and (CPI(IW) of Surat for urban areas
◆ URB – repair and maintenance			
◆ R/U - non-residential building other construction works (new construction outlays)			
◆ R/U Non-residential building other construction works R&M			
◆ Plantations in household sector			
Public Sector	◆ Taken directly	◆ Taken directly	Current price estimates are deflated with the implicit price deflator for the public part at the all India level.
Private Corporate Sector	◆ No plantation activity in the UT		

Table A.1: Sources and Methods

Item	Source of Data	Assumption/method of estimation	
		At current prices	At constant (2004-05) prices
Residual Sector	◆ Supplied by NAD	Supplied by NAD	Same as above
9. Trade, Hotels and Restaurants			
a) Trade			
Public sector dealing in wholesale and retail trade (except motor vehicles) + auctioning activity	◆ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.
Trade - Private organised sector	◆ NAD	Taken directly	Deflated by index of CPI (AL) of Gujarat for rural areas and (CPI(IW) of Surat for urban areas
Trade-Private unorganised sector	◆ Informal sector survey, NSS 55 th and 67 th round for VAPW	GVA estimates for compilation categories sector calculated by multiplying VAPW with adjusted labour inputs	Deflated by index of CPI (AL) of Gujarat for rural areas and CPI (IW) of Surat for urban areas
◆ Wholesale trade (except motor vehicles) + auctioning activity	◆ EUS, NSS 61 st and 68 th & Population Census 2001 and 2011 rounds for labour inputs estimations		
◆ Retail trade except motor vehicles Repair of personal household goods NIC 2008 Codes – 45,46,47,92 and 952			
b) Hotels and restaurants – Public sector			
Private organised	None exists		
	Data Not Available neither from NAD nor DES nor NSSO		
Private unorganised NIC 2008 Codes – 55 and 56	◆ Informal sector survey, NSS 55 th and 67 th round for VAPW ◆ EUS, NSS 61 st and 68 th & Population Census 2001 and 2011 rounds for labour inputs estimations	GVA estimates for compilation categories sector calculated by multiplying VAPW with adjusted labour inputs	Deflated by index of CPI (AL) of Gujarat for rural areas and CPI (IW) of Surat for urban areas
10. Transport, Storage & Communications			
i) Transport and storage			
Water and Air Transport	None exists		

Table A.1: Sources and Methods

<i>Item</i>	<i>Source of Data</i>	<i>Assumption/method of estimation</i>	
		<i>At current prices</i>	<i>At constant (2004-05) prices</i>
Private unorganised Mechanised and Non-mechanised road transport NIC 2008 Codes – 491, 492, 493, 50, 51 and 522	<ul style="list-style-type: none"> ◆ Enterprise Survey, 63rd and 67th rounds for VAPW ◆ EUS, NSS 61st and 68th & Population Census 2001 and 2011 rounds for labour inputs estimations 	GVA estimates for compilation categories sector calculated by multiplying VAPW with adjusted labour inputs	Deflated by index of CPI (AL) of Gujarat for rural areas and CPI (IW) of Surat for urban areas
Storage Public Sector	◆ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.
ii) Communications			
Communications	◆ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.
11. Financing, Insurance, Real Estate & Business Services			
i) Banking and Insurance			
Banking & Insurance	◆ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.
ii) Real estate, ownership of dwellings, business services			
Real estate, Business Services and Legal Services NIC 2008 Codes – 68,77, 62, 63, 58, 69, 71, 72, 73 and 74	<ul style="list-style-type: none"> ◆ Enterprise Survey, 63rd and 67th Rounds for VAPW ◆ EUS, NSS 61st and 68th & Population Census 2001 and 2011 rounds for labour inputs estimations 	GVA estimates for compilation categories sector calculated by multiplying VAPW with adjusted labour inputs	Deflated by index of CPI (AL) of Gujarat for rural areas and CPI (IW) of Surat for urban areas
Ownership of dwellings	◆ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.
12. Public Administration			
Public administration – Central and UT	◆ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.

Table A.1: Sources and Methods

<i>Item</i>	<i>Source of Data</i>	<i>Assumption/method of estimation</i>	
		<i>At current prices</i>	<i>At constant (2004-05) prices</i>
XIII. Other Services			
Public Sector Education, Medical and Public Health and Sanitation	◆ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.
Private – organised and unorganised NIC 2008 Codes –85, 86, 87, 88, 90, 91, 94, 96, 97, 99, 750, 37, 38, 39, 591, 592-59202 and 6391	◆ Enterprise Survey, 63 rd and 67 th Rounds for VAPW ◆ EUS, NSS 61 st and 68 th & Population Census 2001 and 2011 rounds for labour inputs estimations	GVA estimates for compilation categories sector calculated by multiplying VAPW with adjusted labour inputs	Deflated by index of CPI (AL) of Gujarat for rural areas and CPI (IW) of Surat for urban areas
International and other extra territorial bodies	◆ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.