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NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH

Final-Report

Gross State Domestic Product of Daman and Diu

Sponsored by

Government of Daman and Diu

21 March 2016

NCAER 60

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Chapter 1: Background

Introduction

Daman and Diu, a relatively young Union Territory (UT) located on the western coast of India next to the Arabian Sea, came into existence on 30 May 1987.While the UT may seem like a speck on the map with it being the second smallest state/UT in India with an area of 112 square kilometres (km²) and the third smallest state/UT in share of overall population of India (0.02%) with 0.24 million people in 2011 (Census 2011), the cultural mosaic and economic structure of Daman and Diu is unique[1]. With the recent emphasis on 'Make in India', Daman and Diu is a poster child of the economic structure that the rest of India aspires to have. Registered manufacturing in Daman and Diu formed 76.7 per cent of its total Gross State Domestic Product (GSDP) in 2012–13. Unfortunately, its economic history is a little harder to trace because its GSDP has never been calculated. 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 Government of Daman and Diu. The second objective is to identify the opportunities and challenges using the calculated GSDP and the third objective is to recommend a path forward. The economic analysis and the recommended strategy are based on the unique geography, history, culture and demography of Daman and Diu.

1.1 Geography

The UT has two districts—Daman and Diu. The geographical uniqueness is that the districts are not contiguous to each other as shown in Figure 1.1. The distance between the two cities by sea (Gulf of Khambhat/Cambay, an inlet of the Arabian Sea) is 140 kilometres (km) and by road it is 633 km. Consequently, the two districts have different landscapes.

Figure 1.1: Location of Daman and Diu

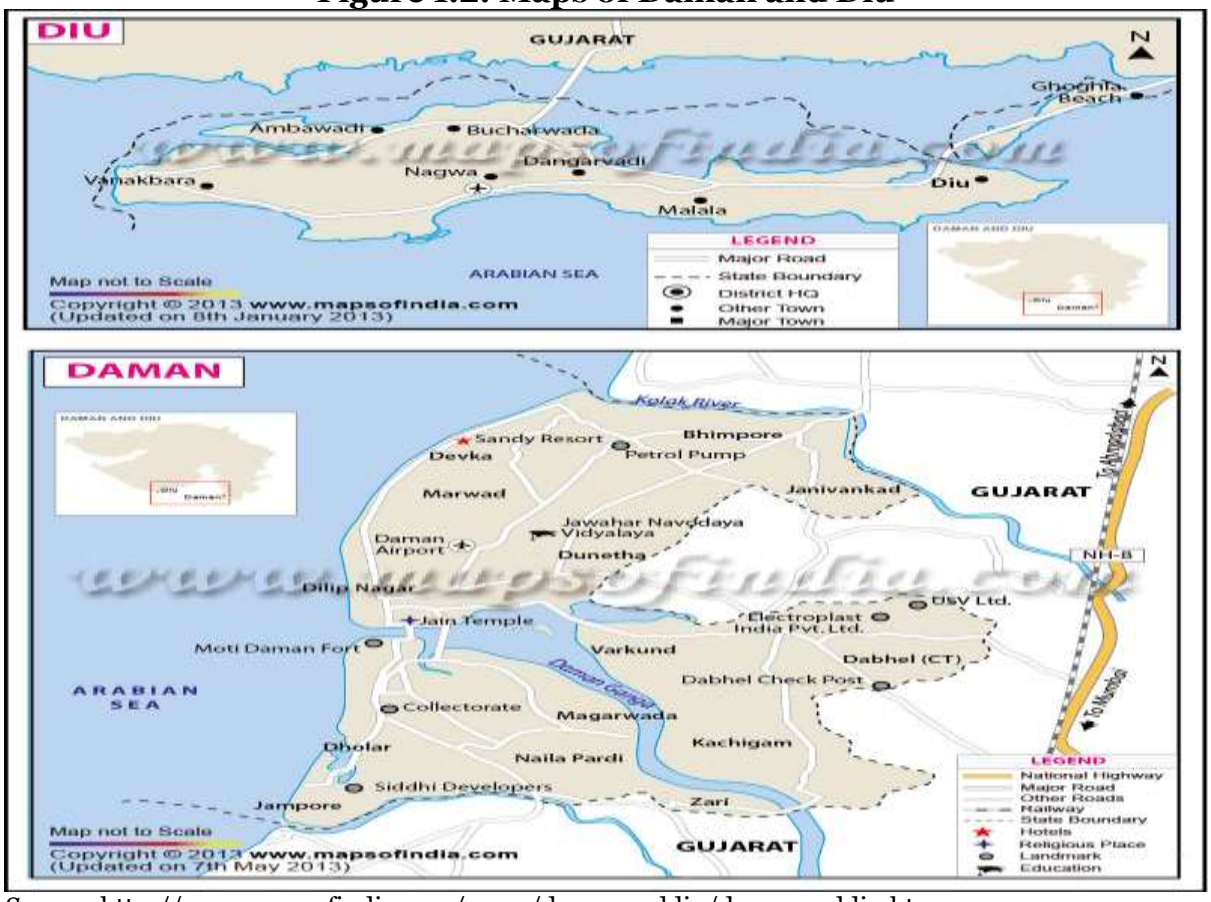
Source: http://www.indian-gk.in/visit_india/daman-and-diu-history-geography-tourism/

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

1.1.1 Daman

Daman is on the Indian mainland[2] and forms 62.4 per cent of the total area of the UT. It is located between 20°27'58"—20°22'00" and 20°28' 38" latitude north and 72°49'42"—72°54'43longitude east of Greenwich (Figure 1.2).Daman's length from north to south measures 11 km and its width from east to west is 8 km. Its72km² area forms part of the south Gujarat coastal strip and it has 12.5 km of coastline. Daman is surrounded on three sides by the Valsad district of Gujarat and on its west by the Gulf of Khambhat (Figure 2). The border between Daman and Valsad district is marked on the north by the river Kolak and on the south by the river Kalu. The capital, Daman city, is 12.1 km from the nearest railway station in Vapi, Gujarat, which is 182 km from Mumbai Central Station, and it is around 750 km from Goa.

Figure 1.2: Maps of Daman and Diu



Source: http://www.mapsofindia.com/maps/damananddiu/damananddiu.htm

[2] The geographical details in this paragraph are from the following three sources – Singh (1994), Daman and Diu Electricity Department website and TCS (2002) unless mentioned otherwise.
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.
Tata Consultancy Services (TCS) and Ministry of Tourism and Culture, Department of Tourism, Market Research, Government of India. 2002. 20-Year Perspective Plan for Daman and Diu. December.
http://tourism.gov.in/CMSPagePicture/file/marketresearch/statewise20yrsplan/daman&diu2.pdf.
DNA.com. 2014. http://dnasyndication.com/dna/dna_english_news_and_features/Soon-take-the-ferry-way-between-Diu------&------Daman/DNAHM74205 (last accessed on 12 August 2015).

Most of the area is covered with black soil. Geographical investigations suggest that it is part of the Deccan Traps and consequently there is massive basalt occurrence here. Daman is on an alluvial coastal plain that is 12 metres above mean sea level (MSL). There are three parallel rivers flowing westward from the Western Ghats. The Daman Ganga River divides the district into Moti Daman in the south and Nani Daman in the north, and develops the estuarine lands of this district.

1.1.2 Diu

Diu district, a 40km^{2}area, is an island on the southern portion of the Gujarat Peninsula, located in the Gulf of Khambhat (Figure 1.2).The island forms 35.7 per cent of the total area of the UT. Diu is located between 20°44'34" —20°42'00" latitude north and 71°00'24" —70°52'26" longitude east of Greenwich. It forms part of the Saurashtra region, and is located at the extreme southern end of Gujarat's Kathiawar peninsula. A tidal creek separates the island from the Indian mainland. Its length from the extreme north to the south measures 4.6 km and the width from east to west is13.8 km. The topography is generally plain, the hillocks attaining a maximum height of 30 metres. It is located at 29 MSL.

The town of Diu is 88.4 km from Veraval, which is the district headquarters of the Gir Somnath district of Gujarat. Diu is approximately 16.3 km from Una town in Gujarat, its nearest railway station.The island of Diu is connected to the mainland by two bridges; one near Ghoghola (going towards the town of Una) and the other is near Tad Village. The same state highway runs through Diu, State Highway No. 232 (Kesariya-Diu Highway) and both the bridges are on this highway only.

The north of the island facing Gujarat is tidal marshes and salt pans, while the south coast has some fine limestone cliffs, rocky coves and sandy beaches. The Portuguese, who ruled Diu for 450 years (discussed in Section 1.4), removed vast quantities of limestone from its quarries to construct their fort, city walls, monument and buildings. The branching palms, popularly known as Hoka trees, were introduced from Africa by the Portuguese and coconut palms dot the 17km coastline of Diu.

There are no natural forests or wild animals in Daman or Diu. About 500 hectares of land area was developed as forests for ecological balance in 1974–75 in Diu. Since then, a lot has changed. The latest 2013 statistics from the Forest Survey of India show that 8.28 per cent of the geographic area of the UT is now under forests; of this, 5 per cent is in Daman and 14.15 per cent is in Diu. This coverage shows an increase from 2009[3], due to constant conservation efforts by the Daman and Diu UT. Further, Diu is a 'natural bird sanctuary'. Both resident and migratory birds are found in Diu including flamingos, storks, the Great Indian Bustard and different types of egrets, herons, plovers, larks, minivets, skimmers etc.[4]. The Fudam Bird Sanctuary, with an area of 2.18 km^2, was established in 1991 in the northern part of the island. The chapter on Agriculture and Allied activities discusses this subject in more detail.

[3]Forest Survey of India, Ministry of Environment and Forests, Government of India. 2013 and previous reports. *India State of Forest 2013*. Forest Survey of India, Ministry of Environment and Forests, Dehradun, India.

[4] A more complete birds list found in Daman and Diu can be found here. http://avibase.bsc-eoc.org/checklist.jsp?region=INswdd&list=howardmoore.

1.2 Climate[5]

1.2.1 Daman

The climate of Daman is temperate due to its location near the sea. The average maximum temperature is 37.2°C and minimum temperature is 11.6°C. The hottest month is May when the average minimum and maximum temperatures are 26°C and 37°C. The coldest month is January when the average minimum and maximum temperatures are 15°C and 29°C. The humidity ranges between 24–100 percent and the entire district receives its major share of rainfall between June and September. The district receives about 1,830 mm rainfall. Because of its temperate climate round the year, Daman receives travellers in all seasons.

1.2.2 Diu

Diu has a cool and dry climate throughout the year. The constant sea breeze affects the temperature on the island. The winter is mild, with temperatures around 20°C during the day and around 15°C at night in December and January. The months between March and May are hot (maximum 36°C) but the temperature does not rise abnormally. Diu experiences the southwest monsoon during June–September but it is unlike the heavy rainfall experienced in other parts of southern Gujarat. Diu receives around 600 mm rainfall a year.

1.3 History[6].

Because of their strategic locations, Daman and Diu, and especially the latter, have been well known throughout history. Daman and Diu share a common history after they were conquered by the Portuguese in the 1500s. Before the Portuguese occupation, their historical paths were different, although they were both part of Gujarat. While Daman was closer to the southern Gujarati tradition, Diu was closer to the Kathiawar region. After liberation on 19 December 1961 during Operation Vijay from Portuguese rule of more than four centuries, Daman and Diu became part of the Union Territory of Goa, Daman and Diu under the Government of India in 1962. Daman and Diu came into existence after they were delinked from Goa, which attained statehood on 30 May 1987.

1.4.1 Daman

Daman was part of *Lata* or South Gujarat. It was one of the seven divisions of the *Aparanta* or Konkan *vishaya*[7] between the 2nd century B.C. and the 13th century A.D.

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[5] The geographical details in this paragraph are from the following three sources – Singh (1994), Daman and Diu Electricity Department website and TCS (2002) unless mentioned otherwise. The complete reference for these three sources are available in footnote no. 2.

[6] The two main sources for the histories of Daman and Diu, unless mentioned otherwise, are:
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

[7] *Aparanta* or *Aparantaka* (meaning 'Western border') was a geographical region in ancient India that variously corresponded to northern Konkan, northern Gujarat, Kathiawar, Kutch and Sindh. Chandragupta Maurya incorporated the west coast of India in his province of Aparanta. The western Mauryan kingdom comprised Lata or South Gujarat, coastal Maharashtra, Goa, and approximately half of the North Kanara (Northern Kannada) district. After the decline of the Maurya Empire in the

Archaeological evidence suggests that this land formed part of the Mauryan Empire at least at the time of Ashoka. After the Mauryan power was weakened, the district was ruled by various dynasties including Satavahanas(2nd century B.C.), Kshaharatas (1st century A.D. until249 A.D.), Abhiras (until416 A.D.), Traikutakas (the feudatories of the Abhiras, who seized control of the district during the 5th century A.D. and whose empire extended from southern Gujarat to Daman, Konkan and northern Maharashtra), Vakatakas (500 A.D.), Kalachuris of Mahishamati (suzerainty upto about 609 A.D.), Chalukyas of Badami (up to 671 A.D.), Lata or Navasari Chalukyas (descendants of Chalukyas who ruled from Navasarika), Rashtrakutas of Malkhed (757–975 A.D.), Chalukyas of Kalyani (973–1160 A.D; the Chalukya feudatory family named Nimbarka ruled the territory between the rivers Tapti and Damanganga), Gujarat Chalukyas of Anhilwad (in 1160–1217 A.D; initially through their feudatory Simha and then by transferring their alliance to the Parmar ruler) and Yadavas (1223 A.D. onwards). 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 Gujarat. Historical evidence suggests that he defeated the Koli chief, Nathoart, belonging to the Thorat tribe of Kolis and established himself in a hilly area at Asheri or Asserseta near Daman about 1263 A.D.[8].

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 border extended to the river Auranga near Bulsar to the north of Daman. Towards the east its border extended to Peint and Surgana from Nasik district. The ancient trade route joined Nasik with the port of Daman via Peint and Surgana. The district of Daman included the coastal tract from Surat to Mahim. Mahmud Shah Begada had conquered Fort Parnera on the river Par and the port of Daman, and he levied tribute on ruler Jagatshah (reign 1432–1470 A.D.), a descendent of Ramasingh, in 1465A.D.

Daman was 'discovered' by the Portuguese in 1523 A.D. by accident when a sailor was caught in a storm in the Indian Ocean. Portuguese attempts to acquire Daman started in 1529 A.D. and continued until2 February 1559 A.D., when it was finally acquired from the Shah of Gujarat. It remained under Portuguese rule till 19 December 1961.

1.4.2 Diu

The existence of Diu has been known since the Puranic period. Diu is derived from the Sanskrit word 'dweep' or island. Diu was ruled by King Jalandhar labelled as a demon king who was killed by Krishna Vasudeva of the Yadava dynasty during the period of the Mahabharata. During their 14 years of exile, the Pandavas from Mahabharata mythology are supposed to have stayed in Diu for a few days. These

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2nd century B.C., its ruler in Aparanta made himself independent. A scion of the imperial Mauryas, he founded a dynasty that ruled over the west coast for nearly four centuries from its capital Shurparaka or modern Sopara. This dynasty was known as the Konkan Mauryas (Wikipedia: https://en.wikipedia.org/wiki/History_of_Goa)

[8]The Koli people are historically an ethnic group native to Rajasthan, Himachal Pradesh, Gujarat, Maharashtra, Uttar Pradesh and Haryana states (Wikipedia: https://en.wikipedia.org/wiki/Koli_people).

stories are associated with religious places of significance in the island—a temple for King Jalandhar, the place where Krishna killed the former and rested his *sudarshan chakra* and the place where the Pandavas stayed.

Diu was also ruled by the Mauryas during 322–320B.C. and was the main trade centre of the Saurashtra coast. The state of Saurashtra including Diu was ruled by a series of Hindu dynasties including the Kshatrapas (in the 1st century up to 415 A.D.), Guptas (415–467 A.D.), Maitrakas (470–788 A.D.), Chavada dynasty of Gujarat and Saurashtra (789–941 A.D. who kept their capital at Diu) and Chalukyas (from 941 A.D.; the Chavdas were their local chieftains in Diu). Mohammed Ghazni attacked the Chalukyas including Diu in 1020 A.D. After Ghazni's departure, the Chavadas and then the Chalukyas (1064 A.D.) regained power. Diu was under the sway of the Chauda and Vaghela Rajputs till they were dislodged by Allauddin Khilji of Delhi in A.D. 1297. In 1407 A.D, Diu came under the Shah of Gujarat. Muzaffar Khan, the governor of Gujarat, had declared himself as the Shah. The Portuguese started their attacks from 1518 to 1535 A.D. The Mughal emperor, Humayun, attacked the Shah and the latter entered into an agreement with the Portuguese on 5 October 1535 to protect himself. Diu was given to the Portuguese. Diu was finally seized by the Portuguese Governor on 10November 1546 and Simber, a village, was conquered in 1722. Diu remained under the Portuguese until its liberation in 1961.

1.4.3 Economic History of Daman and Diu

Between the fourteenth and sixteenth centuries, Diu was well known for its port and had naval bases located there. Both Daman and Diu were known for their docks and ship building yards. They were noted for their weaving and dyeing before the Portuguese period. And afterwards, they used to export Gujarati-made cotton fabrics to Mozambique in East Africa. Further, they imported opium from China and exported it to Karachi.

1.4 Culture[9]

1.4.1 Ethnic Composition

Hindus form 90 percent of the UT, with slightly less than 90 per cent in Daman and more than 90 per cent in Diu (Table 1.1). The majority of the Hindus consider themselves as descendants of Rajputs and some of the main castes areKharwa, Koli Patel, Koli, Brahman, Bania, Vanja, Sangharia, Salat, Baria, Kamli, Mitna, Mangela, Bhandari, Macchi, Kumbhar, Bhoi Raj, Dhobi, Vankar, Hadi, Bhangi and Mahyavanshi. Scheduled Castes (SCs) formed 2.5 per cent of the population in 2011. The two keys SCs are Mahyavanshi, and Bhangi, forming 58.2 and 26.9 per cent of the SC population in the UT in 2011. Other generic castes form 10.8 per cent of the SC population. Chambar, Mahar and Mang are other castes forming 2.1, 1.8 and 0.2 per cent, respectively, of the SC population.

[9] 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.

Scheduled tribes (STs) formed 6.6 per cent of the population in 2011. Dubla is the largest ST group, forming 72.2 per cent of the ST population in 2011, followed by Dhodia (15.2%), Varli (9.0%), Siddi/Nayaka (1.3%), Naikda/Talavia (0.007%) and generic tribes (2.2%).

Momin and Khoja are the two key Muslim groups and Catholic Christians form the Christian community.

Table 1.1: Religious Composition of the Union Territory, 2011

Religion	*Daman and Diu*	*Daman*	*Diu*
Hindu	90.5	89.7	93.4
Muslim	7.9	8.4	6.1
Christian	1.2	1.4	0.4
Sikh	0.1	0.1	0.01
Buddhist	0.1	0.1	0.00
Jain	0.1	0.1	0.1
Other Religion	0.03	0.04	0.00
Religion not Stated	0.1	0.1	0.04

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

1.4.2 Languages

Gujarati is the main language spoken in Daman and Diu by all the communities. Other dialects are Dhodia spoken by the Dhodia, Dubli by the Dublis, Mangelis (a mixture of Marathi and Gujarati) by the Mangalas, Urdu by the Momin and Khoja and Portuguese by the Christians. The Siddi of Diu speaks the Siddi dialect. The Kharwa of Diu speaks Gujarati, albeit in a different style. Everybody also speaks Hindi and English.

Daman and Diu therefore represent a mosaic of the Indian cultural fabric. The Portuguese influence is relatively stronger in Diu than in Daman.

1.5 Demography

1.5.1 Population

Since Daman and Diu form only 0.02 per cent of India's population, it is the second smallest state in terms of population. For the greater part of the twentieth century, it formed only 0.01 per cent of the Indian population, increasing its share to 0.02 per cent in 2001. The startling number is the compound annual growth rate (CAGR) of the population of Daman and Diu, which far outstrips the population growth of India (Table 1.2).

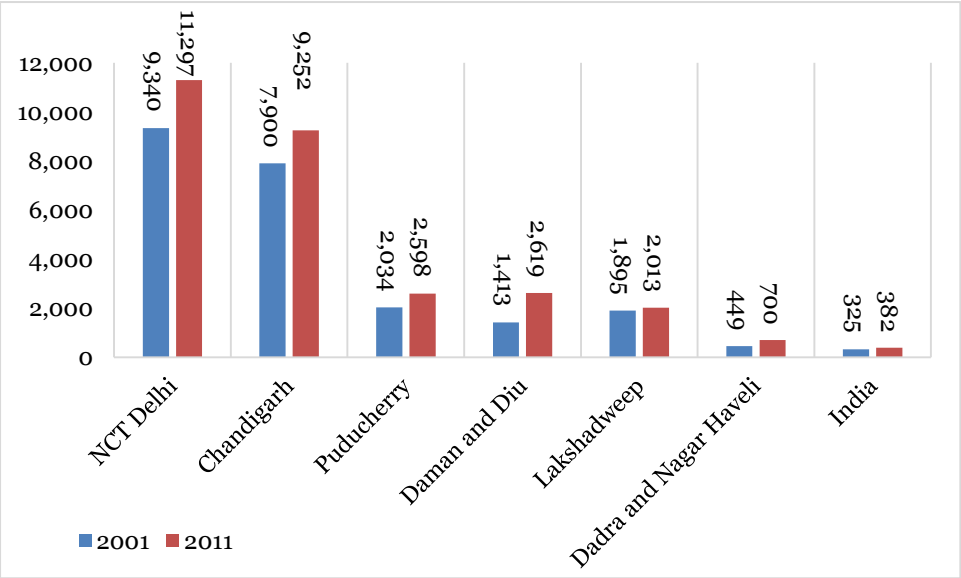
Table 1.2: Population of Daman and Diu, 1901 to 2011

Year	India		Daman and Diu				
	CAGR (%)	Population per km²	Population (million)	Decadal Growth (%)	CAGR (%)	Share of India (%)	Population per km²
1901		77	0.03			0.01	285.8
1911	0.6	82	0.03	1.5	0.1	0.01	289.9
1921	0.0	81	0.03	−3.3	−0.3	0.01	280.4
1931	1.0	90	0.04	16.0	1.5	0.01	325.3
1941	1.3	103	0.04	17.5	1.6	0.01	382.2
1951	1.3	117	0.05	13.5	1.3	0.01	434.0
1961	2.0	142	0.04	−24.6	−2.8	0.01	327.4
1971	2.2	177	0.06	70.9	5.5	0.01	559.4
1981	2.2	216	0.08	26.1	2.3	0.01	705.2
1991	2.2	267	0.1	28.6	2.5	0.01	907.0
2001	2.0	325	0.2	55.7	4.5	0.02	1,412.5
2011	1.6	382	0.2	53.8	4.4	0.02	2,171.8

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

Daman and Diu is the fourth most densely populated state/UT in the country after the National Capital Territory (NCT) Delhi, Chandigarh and Puducherry (Figure 1.3). The population density is significantly higher than the Indian average.

Figure 1.3 Density, Number of Persons per square kilometre, 2001 and 2011



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

Daman is more densely populated than Diu. District-wise estimates show that Daman's share of population has increased, whereas Diu's share has declined (Table 1.3). However, the double-digit population growth rate of Diu far outstrips that of Daman.

Table 1.3: District-wise Population of Daman and Diu, 1961 to 2011

Year	Daman					Diu				
	Population (million)	Decadal Growth (%)	CAGR (%)	Share of Daman in overall UT Population (%)	Density People per km²	Population (million)	Decadal Growth (%)	CAGR (%)	Share of Diu in overall UT Population (%)	Density People per km²
1961	0.02			61.1	311.0	0.01			38.9	357.0
1971	0.04	73.0	10.8	61.8	538.0	0.02	67.5	15.9	38.2	597.8
1981	0.05	25.4	7.4	61.5	674.4	0.03	27.2	12.7	38.5	760.5
1991	0.06	27.9	7.7	61.1	862.5	0.04	29.8	12.8	38.9	987.1
2001	0.1	83.6	9.8	72.1	1,583.2	0.04	12.0	14.9	27.9	1,105.4
2011	0.2	67.7	7.9	78.6	2,655.2	0.05	17.8	18.6	21.4	1,301.9

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

1.5.2 Sex Ratio

Among all the states and the UTs of India, Daman and Diu has the worst sex ratio. The sex ratio, which is the number of females per 1,000 males, has continuously fallen for the UT since 1961 and the fall has been driven by the decrease in the Daman district (Table 1.4). This is significant because Daman and Diu started out well in 1901 and were better than the Indian numbers. However, in 2001, India outperformed Daman and Diu in this regard. Therefore, this worsening sex ratio is a recent phenomenon in the UT. Significantly, the problem is in the district of Daman. The numbers in Diu are better than those of India and further there is no consistent trend in this region. Last but not least, while India improved its sex ratio between 2001 and 2011, both Daman and Diu worsened.

Table 1.4: Sex Ratio Trend, 1901–2011 (number of females per 1,000 males)

Year	India	Daman and Diu	Daman	Diu
1901	972	995	Not Available	Not Available
1911	964	1,040	Not Available	Not Available
1921	955	1,143	Not Available	Not Available
1931	950	1,088	Not Available	Not Available
1941	945	1,080	Not Available	Not Available
1951	946	1,125	Not Available	Not Available
1961	941	1,169	1,063	1,357
1971	930	1,099	1,031	1,218
1981	934	1,062	1,017	1,139
1991	927	969	913	1,064
2001	933	710	591	1,118
2011	940	618	534	1,031

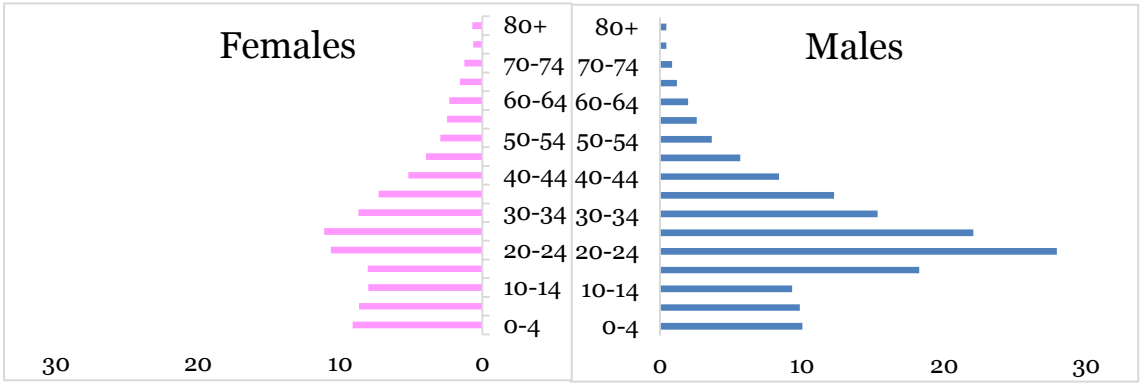
Sources: National Commission on Population, Ministry of Health and Family Welfare, Government of India website. http://populationcommission.nic.in/content/625_1_index.aspx and Department of Planning and Statistics, U.T. Administration of Daman and Diu, Secretariat Daman. 2014. Statistical Diary 2013–14,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

1.5.3 Age-wise Population

Figure 1.4 shows the skewed population pyramid for Daman and Diu. The skewed sex ratio discussed in the previous section is clearly evident in this graph. The

population of the UT is relatively young, with 49.3 per cent of the population below the age of 24, with 27 per cent of the population between the ages of 15 and 24.

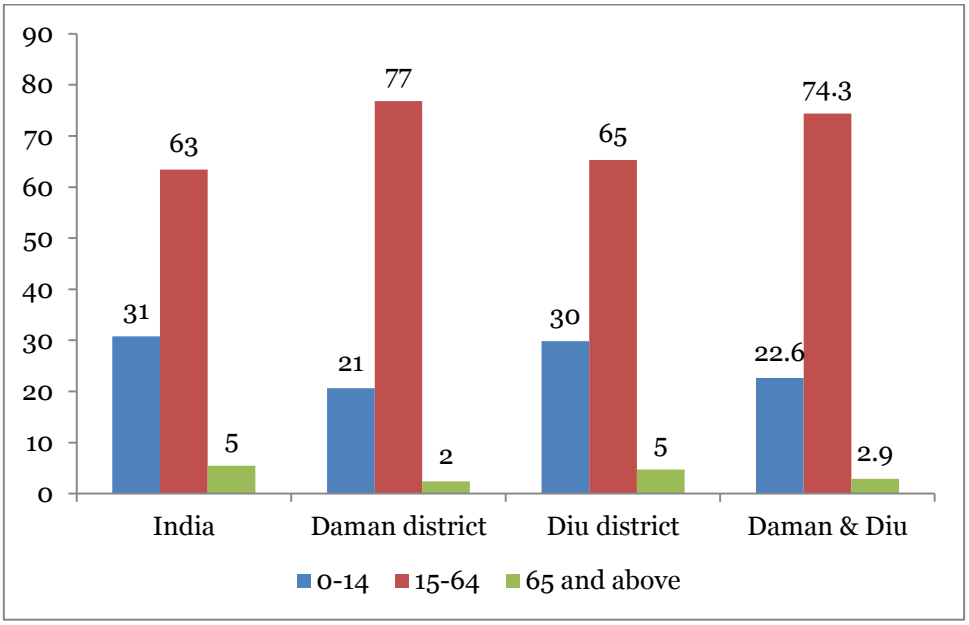
Figure 1.4: Population Pyramid of Daman and Diu, 2011



Note: Population figures are in thousands.
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 dependence on the working-age population in shown in Figure 1.5. Diu and India look very similar with 65 and 63 per cent, respectively, in the working age group. However, Daman district looks substantially different with 77 per cent of its population currently in the working age bracket.

Figure 1.5 Age-wise Population distribution, 2011

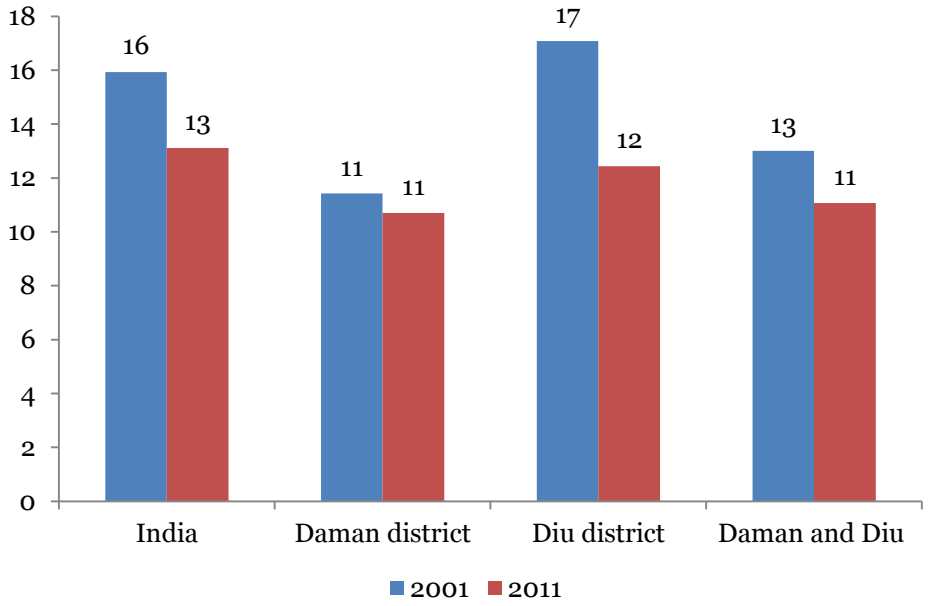


Source: NCAER Computations from Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. http://censusindia.gov.in/.

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 Diu, which is similar to India. However, for Daman the percentage of children has remained the same at 11 per cent between 2001 and 2011. In terms of child sex ratio, Daman is worse off than India and the situation worsened

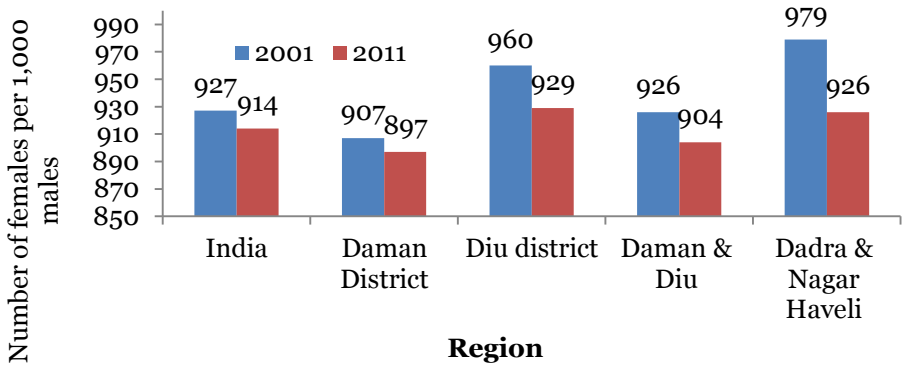
between 2001 and 2011. Overall, Diu is better than India, even though it has also worsened between 2001 and 2011.

Figure 1.6: Percentage of Child Population (0–6 years), 2001 and 2011



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 1.7 Sex Ratio for Child Population (0–6 years), number of females per 1,000 males



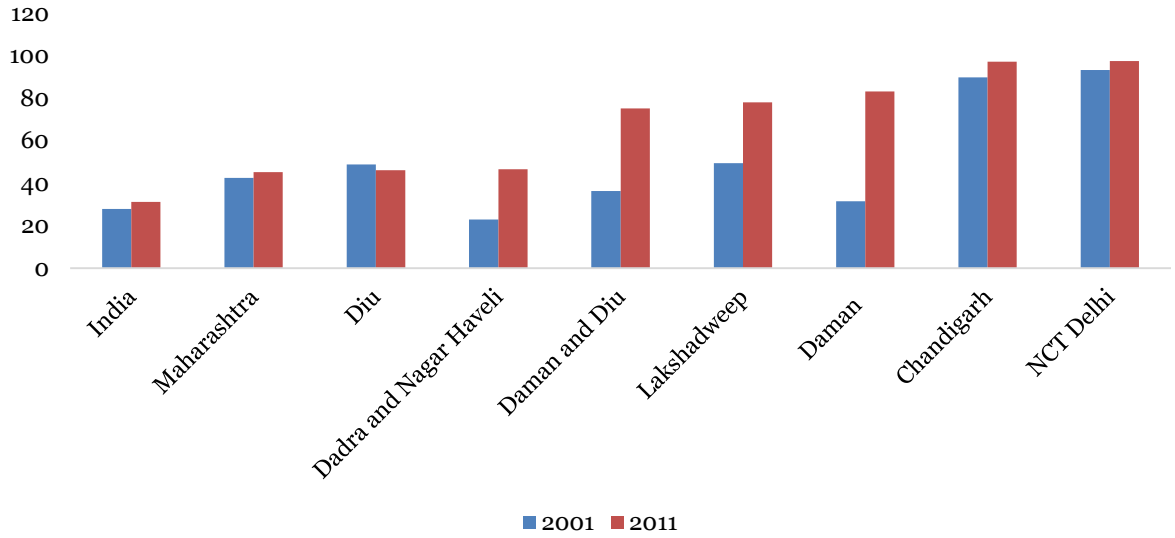
Source: NCAER Computations from Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. http://censusindia.gov.in/.

1.5.4 Urbanisation

Daman and Diu with 75.2 per cent of the population in urban areas was the fourth most urbanised state/UT in India after NCT Delhi, Chandigarh and Lakshadweep in 2011 (Figure 1.8). This is mainly being driven by urbanisation in Daman (83.1%). The percentage of urban population in Diu is barely 46.1 per cent, which is above the

Indian average but it is relatively low compared to Daman, and is somewhere between Maharashtra (45.23%) and Dadra &Nagar Haveli (46.6%).

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/.

The UT of Daman and Diu has experienced a dramatic increase in urbanisation between 2001 and 2011, increasing from 36.3 per cent in 2001 to 75.2 per cent in 2011. This is mainly due to the increase in urbanisation in Daman from 31.4 per cent in 2001 to 83.1 per cent in 2011. In complete contrast to the trends in the rest of the country, the percentage of population living in urban areas in Diu has come down, from 48.8 per cent in 2001 to 46.1 per cent in 2011.

There are two municipal councils and six census towns and 19 villages in the UT[10]. The two municipal councils are located in the district with the same name. All six census towns are located in Daman and four of the 19 villages are located in Diu.

The growth of census towns is a recent phenomenon that is driving the urbanisation process both in India and in Daman and Diu. In 2001 the census towns were classified as villages in the UT[11]. The Daman municipality grew at a CAGR of 2.6 per cent between 2001 and 2011, and forms 27.9 per cent of the total urban population of Daman. In contrast, the census towns together form 72.1 per cent of the urban population of Daman. With a total population of 44,282 the Daman municipality remains a Class III city[12]. Diu is the only municipal town in the district of Diu and is

[10] Places 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 working population is engaged in non-agricultural pursuits and; (c) Population density is at least 400 per km^2.
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.
[11] Directorate of Census Operations, Daman and Diu. Census of India 2011: Daman and Diu. District Census Handbook: Daman. Series 26. Part 12-B.
[12] Class III cities are cities with population of 50,000–49,999 people.
http://www.censusindia.gov.in/2011-prov-results/paper2-vol2/data_files/AP/Chapter_IV.pdf.

also a Class III city. Its population is the total urban population of Diu and shows significant expansion, growing at a CAGR of 7.5 per cent between 2001 and 2011. The rural population in Diu grew at a CAGR of 6.94 per cent but a relatively larger share of the population lives in rural areas and therefore the urbanisation process in the district shows a dip.

1.5.5 Analysis

The districts of Daman and Diu within the UT show contrasting trends. While the population of both districts is growing very rapidly compared to the rest of the country, the CAGR of the population of Diu is relatively higher than for Daman. Daman and Diu show contrasting trends on the remaining indicators with Diu reflecting overall Indian trends. Daman is relatively more urbanised, mainly because of the growth of census towns, and has a high population density. Diu, in contrast, is relatively rural and has only one Class III city. Daman is also at a relatively more advanced stage of demographic transition than Diu with 77 per cent of the population in the 15–64 age group.

The most interesting point that comes out from the above analysis is the high population growth with the lop-sided sex ratio, especially in the 20–24 age group. Why is that happening? Three possible reasons are higher fertility rate, drop in the child sex ratio or higher migration.

- As per the Sample Registration System from the Registrar General of India, Total Fertility Rate (TFR) has dropped in the UT from 2.1 in 2003–05 to 2 in 2004–06 and then to 1.9 in 2005–07[13].
- The percentage of children in the population has remained the same in Daman between 2001 and 2011. For the UT as a whole, it dropped from 13 per cent (2001) to 11 per cent (2011). The child sex ratio is lower than that of India, especially in Daman, both in 2001 and 2011. In Diu, the child sex ratio is better than in India, although it shows a drop between 2001 and 2011.
- When we look at migration from the Census 2001 and NSSO data, we find that inter-state migration in Daman and Diu has been significantly higher than for India (Table 1.5). That explains part of the high growth rate of population in the UT. The percentage of migrants in the total population came down significantly in Daman and Diu between 2001 and 2007–08. Female inter-state migration is higher than male inter-state migration and therefore does not explain the lop-sided sex ratio. Next, we look at migration data by duration of residence in Table 1.6. It shows that male migration is significantly higher than female migration in the last five years, i.e., the duration of residence of 65.6 per cent of total male migrants is less than or equal to five years. As we find out in the next section, the vibrant manufacturing growth and therefore jobs in the period from 2002 to 2007 attracted male workers to the UT, driving up population and affecting the sex ratio in the UT. Majority of the migrants have migrated only recently in the last five years.

[13]The 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, India the total fertility rate (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.

Table 1.5: In-Migration (migration by last place of residence) as a percentage of Total Population, 2001 and 2007–08

Region	Type of Migrants	2001			2007–08		
		Persons	Male	Female	Persons	Male	Female
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
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 1.6: In-Migration (migration by last place of residence) as a percentage of Total Migration Classified by Duration of Residence, 2007–08

Region	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
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.

1.6 Economy

1.6.1 GSDP Estimates and Economic Growth

The Gross Value Added (GVA)/Gross State Domestic Product (GSDP) at factor cost of Daman and Diu is shown in Tables 1.7 and Tables 1.8, in current and constant prices respectively[14]. 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, and 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 both Daman and Diu. Further, as evident from Table 1.7, minor mining activity existed in one year of our period but otherwise there is very little presence of mining.

[14] Conceptually GVA at factor cost and GSDP at factor cost are same and the terms can be used interchangeably. Therefore when describing the total, we will use GSDP and when referring to sectors, we will use the term GVA for ease of reading and reference.

Table 1.7: Gross Value Added/Gross State Domestic Product at Factor Cost by Economic Activity, 2008–09 to 2012–13, ₹lakh at current prices

	Sector	*2008–09*	*2009–10*	*2010–11*	*2011–12*	*2012–13*
1	Agriculture, Forestry & Fishing	10,378	10,951	12,269	12,810	15,187
1.1	Agriculture	1,790	2,233	2,451	2,734	2,472
1.2	Forestry & Logging	630	1,377	646	660	679
1.3	Fishing	7,958	7,341	9,172	9,417	12,036
2	Mining & Quarrying	N.A.	5	N.A.	N.A.	N.A.
3	Manufacturing	4,77,582	6,24,712	6,98,219	7,18,481	7,30,535
3.1	Registered	4,76,770	6,23,791	6,97,172	7,17,287	7,29,169
3.2	Unregistered	812	920	1,047	1,194	1,366
4	Electricity, Gas & Water Supply	3,035	4,313	4,468	7,574	9,041
5	Construction	7,456	9,009	8,463	13,566	17,408
6	Trade, Hotels & Restaurants	30,981	34,636	40,266	43,343	52,820
6.1	Trade	26,264	29,373	34,056	35,938	44,026
6.2	Hotels & Restaurants	4,717	5,263	6,210	7,405	8,795
7	Transport, Storage & Communications	6,157	7,499	8,799	10,671	13,454
7.1	Railways	N.A.	N.A.	N.A.	N.A.	N.A.
7.2	Transport by other means	2,740	3,226	4,152	5,197	6,814
7.3	Storage	67	81	99	122	146
7.4	Communications	3,350	4,192	4,548	5,352	6,494
8	Financing, Insurance, Real Estate & Business Services	24,109	34,160	49,535	70,312	1,08,399
8.1	Banking & Insurance	7,056	9,801	12,524	13,347	16,612
8.2	Real Estate, Ownership of Dwellings & Business Services	17,053	24,359	37,011	56,965	91,787
9	Community, Social & Personal Services	11,656	16,119	16,307	17,571	20,958
9.1	Public Administration & Defence	7,126	8,728	7,964	8,582	9,454
9.2	Other Services	4,530	7,391	8,343	8,989	11,504
10	Gross Domestic Product at factor cost (1 to 9)	5,71,534	7,41,404	8,38,327	8,94,328	9,67,801

Source: NCAER computations.

Table 1.8 shows that Daman and Diu formed 0.12 per cent of Indian GDP during the period from 2008–09 to 2012–13. Further, after a stupendous growth rate in 2009–10, the growth rate of real GSDP of the UT steadily declined and went into recession in 2011–12. It shows mild recovery in 2012–13.

Table 1.8: Gross Value Added/Gross State Domestic Product at Factor Cost by Economic Activity, 2008–09 to 2012–13, ₹lakh at constant prices (2004–05 prices)

	Sector	*2008–09*	*2009–10*	*2010–11*	*2011–12*	*2012–13*
1	Agriculture, Forestry & Fishing	8,744	7,428	6,949	6,771	7,350
1.1	Agriculture	1,456	1,486	1,493	1,552	1,266
1.2	Forestry & Logging	553	1,192	535	536	536
1.3	Fishing	6,734	4,750	4,922	4,684	5,549
2	Mining & Quarrying	N.A.	4	N.A.	N.A.	N.A.
3	Manufacturing	3,75,497	4,91,141	5,13,018	4,92,171	4,72,338
3.1	Registered	3,74,820	4,90,403	5,12,229	4,91,333	4,71,425
3.2	Unregistered	676	738	789	838	914
4	Electricity, Gas & Water Supply	2,845	3,567	3,605	5,555	6,144
5	Construction	5,692	6,996	5,344	7,887	9,182
6	Trade, Hotels & Restaurants	24,325	23,827	25,684	25,461	27,914
6.1	Trade	20,585	20,140	21,642	21,047	23,204
6.2	Hotels & Restaurants	3,740	3,687	4,042	4,414	4,710
7	Transport, Storage & Communications	6,480	7,104	8,482	9,401	10,257
7.1	Railways	N.A.	N.A.	N.A.	N.A.	N.A.
7.2	Transport by other means	2,203	2,347	2,792	3,207	3,783
7.3	Storage	61	68	81	84	97
7.4	Communications	4,216	4,689	5,609	6,111	6,377
8	Financing, Insurance, Real Estate & Business Services	20,738	26,884	35,691	45,800	63,335
8.1	Banking & Insurance	7,449	10,373	12,469	12,860	15,548
8.2	Real Estate, Ownership of Dwellings & Business Services	13,289	16,511	23,222	32,939	47,787
9	Community, Social & Personal Services	9,101	11,211	10,333	10,276	11,107
9.1	Public Administration & Defence	5,562	6,084	5,049	5,031	5,036
9.2	Other Services	3,539	5,127	5,284	5,246	6,071
10	Gross Domestic Product at factor cost (1 to 9)	4,53,422	5,78,162	6,09,106	6,03,324	6,07,628
11	Share of Indian GDP (%)	0.11	0.13	0.12	0.11	0.11
12	Growth Rate of Daman and Diu GSDP (%)	N.A.	27.5	5.4	–0.9	0.7
13	Per capita GSDP (₹ per capita)	2,07,609	2,53,542	2,55,818	2,30,168	2,12,087
14	Growth Rate of per capita GSDP (%)	NA	22.1	0.9	–10.0	–7.9

Source: NCAER computations.

To understand the growth dynamics in the UT, we further look at the shares of individual sectors and their growth rates in Tables 1.9 and 1.10.Table 1.9 shows that manufacturing forms on average (2008–09 to 2012–13) 82.3 per cent of GSDP and within that it is registered manufacturing that forms 82.1 per cent of GSDP. However, the share of registered manufacturing has shown a steady decline from 84.8 per cent in 2009–10 to 77.6 per cent in 2012–13.

After registered manufacturing, the next biggest sector is real estate, ownership of dwellings and business services, forming on average (2008–09 to 2012–13) 4.6 per cent of GSDP. The share of this sector has gone up steadily from 2.9 per cent in 2009–10 to 7.9 per cent in 2012–13. Within this sector, we find that it is the business services sector that has increased its share of GSDP from 1.9 per cent in 2008–09 to 7.4 per cent in 2012–13 (Chapter 4: Services). Within that, computer-related services and research &development are the two major components of business services. Another important services sector is trade, which forms 3.8 per cent of GSDP on average.

Table 1.9: Shares of Gross Value Added/Gross State Domestic Product at Factor Cost by Economic Activity of Daman and Diu, 2008–09 to 2012–13

	Sector	*2008–09*	*2009–10*	*2010–11*	*2011–12*	*2012–13*
1	Agriculture, Forestry & Fishing	1.9	1.3	1.1	1.1	1.2
1.1	Agriculture	0.3	0.3	0.2	0.3	0.2
1.2	Forestry & Logging	0.1	0.2	0.1	0.1	0.1
1.3	Fishing	1.5	0.8	0.8	0.8	0.9
2	Mining & Quarrying	0.0	0.0	0.0	0.0	0.0
3	Manufacturing	82.8	84.9	84.2	81.6	77.7
3.1	Registered	82.7	84.8	84.1	81.4	77.6
3.2	Unregistered	0.1	0.1	0.1	0.1	0.2
4	Electricity, Gas & Water Supply	0.6	0.6	0.6	0.9	1.0
5	Construction	1.3	1.2	0.9	1.3	1.5
6	Trade, Hotels & Restaurant	5.4	4.1	4.2	4.2	4.6
6.1	Trade	4.5	3.5	3.6	3.5	3.8
6.2	Hotels & Restaurants	0.8	0.6	0.7	0.7	0.8
7	Transport, Storage & Communications	1.4	1.2	1.4	1.6	1.7
7.1	Railways	0.0	0.0	0.0	0.0	0.0
7.2	Transport by other means	0.5	0.4	0.5	0.5	0.6
7.3	Storage	0.013	0.012	0.013	0.014	0.016
7.4	Communications	0.9	0.8	0.9	1.0	1.0
8	Financing, Insurance, Real Estate & Business Services	4.6	4.6	5.9	7.6	10.4
8.1	Banking & Insurance	1.6	1.8	2.0	2.1	2.6
8.2	Real Estate, Ownership of Dwellings & Business Services	2.9	2.9	3.8	5.5	7.9
9	Community, Social & Personal Services	2.0	1.9	1.7	1.7	1.8
9.1	Public Administration & Defence	1.2	1.1	0.8	0.8	0.8
9.2	Other Services	0.8	0.9	0.9	0.9	1.0

Source: NCAER computations.

The sector of agriculture and allied activities forms 1.3 per cent of the state GSDP on average (for the period 2008–09 to 2012–13). It shows stagnation before picking up marginally in 2012–13. Within that, the fishing sector is the most significant, forming one per cent of GSDP, on average. The increase in fishing drives up growth

in the overall sector in 2012–13. Agriculture forms, on average, 0.3 percent of GSDP; it wavers between 0.3 and 0.2 per cent. Forestry &logging forms barely 0.1 per cent of GSDP. This is not surprising given that forestry in the UT has been taken up mainly due to conservation efforts rather than because of any previous presence of forestry.

Table 1.10: Growth Rate of Gross State Domestic Product of Daman and Diu, 2008–09 to 2012–13(%)

	Sector	*2009–10*	*2010–11*	*2011–12*	*2012–13*
1	Agriculture, Forestry & Fishing	–15.0	–6.4	–2.6	8.5
1.1	Agriculture	2.1	0.4	4.0	–18.5
1.2	Forestry & Logging	115.4	–55.1	0.1	0.0
1.3	Fishing	–29.5	3.6	–4.8	18.5
2	Mining & Quarrying	N.A.	N.A.	N.A.	N.A.
3	Manufacturing	30.8	4.5	–4.1	–4.0
3.1	Registered	30.8	4.5	–4.1	–4.1
3.2	Unregistered	9.1	6.9	6.3	9.0
4	Electricity, Gas & Water Supply	25.4	1.1	54.1	10.6
5	Construction	22.9	–23.6	47.6	16.4
6	Trade, Hotels & Restaurants	–2.0	7.8	–0.9	9.6
6.1	Trade	–2.2	7.5	–2.7	10.2
6.2	Hotels & Restaurants	–1.4	9.6	9.2	6.7
7	Transport, Storage &Communications	9.6	19.4	10.8	9.1
7.1	Railways	N.A.	N.A.	N.A.	N.A.
7.2	Transport by other means	6.5	18.9	14.9	18.0
7.3	Storage	11.4	20.4	3.2	15.0
7.4	Communications	11.2	19.6	9.0	4.4
8	Financing, Insurance, Real Estate & Business Services	29.6	32.8	28.3	38.3
8.1	Banking & Insurance	39.3	20.2	3.1	20.9
8.2	Real Estate, Ownership of Dwellings & Business Services	24.2	40.6	41.8	45.1
9	Community, Social & Personal Services	23.2	–7.8	–0.5	8.1
9.1	Public Administration & Defence	9.4	–17.0	–0.3	0.1
9.2	Other Services	44.9	3.1	–0.7	15.7
10	Gross Domestic Product at factor cost (1 to 9)	27.5	5.4	–0.9	0.7

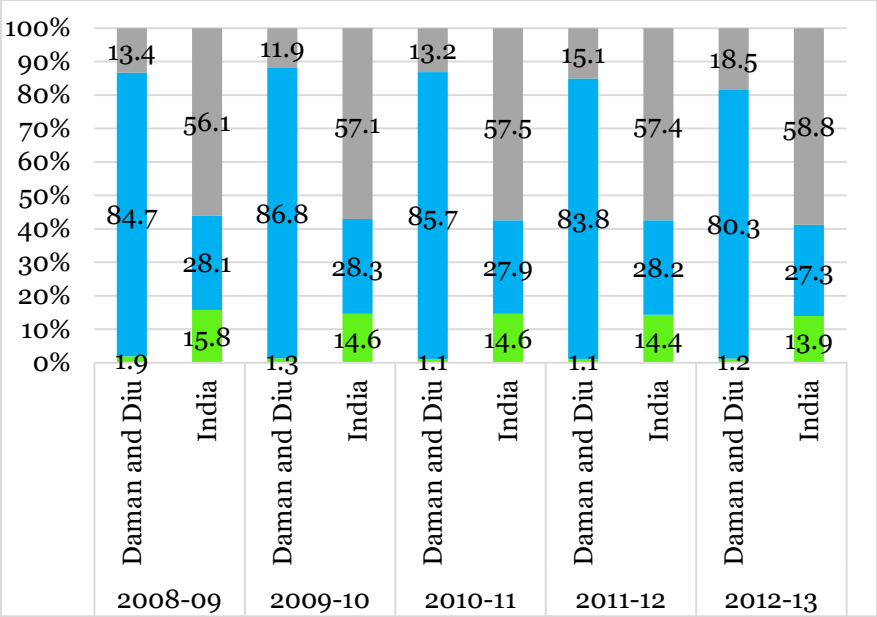
Source: NCAER computations.

Table 1.10 shows that the sector of real estate, ownership of dwellings & business services shows increasing growth as well as the highest growth over the period of this study. Except for ownership of dwellings, every sub-sector shows double-digit growth for the entire period (Chapter 4: Services). In contrast, registered manufacturing shows slowing growth and falling into recession in 2011–12. The registered manufacturing growth in 2009–10 shows double digit growth and slows down sharply in the subsequent years. The 2009–10 growth rate of registered manufacturing is not an anomaly. As explained in the industry chapter (#3), the growth rate of registered manufacturing has suffered from significant volatility. This point is further elaborated and examined in Chapter 3, which focuses on industry.

1.6.2 Structural Change

The structural change of economies in terms of sectoral shares of agriculture, industry and services of total GSDP gives an idea about the transformation of the economy[15]. The economic histories of developed economies show that they transformed from agricultural to industrial to service-oriented economies. India, in contrast to developed economies but similar to other developing countries, seems to have jumped from a largely agricultural economy to a services one. However, Daman and Diu, in contrast to the rest of India, is following the more traditional route of growth (Figure 1.9). Its industrial sector, specifically the registered manufacturing sector, is its largest sector. However, we also see some development in the services sector especially the business services sector.

Figure 1.9: Shares of Agriculture, Industry and Services (%) of Daman and Diu 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 includes agriculture, forestry and fishing. Industry includes manufacturing, mining, construction and electricity, gas &water. Services includes trade, hotels and restaurants, transport, storage and communications, financial, insurance, real estate &business services and community, social &personal services.
Source: NCAER computations.

Labour inputs in the sectors also have changed substantially (Table 1.11). Within seven years, the percentage of labour in agriculture has come down from approximately 1/3 to 10 per cent. The majority of the labour force is working in the industrial sector, especially manufacturing, in Daman and Diu. This stands in contrast to the rest of India. However, the significant result is that the share of labour inputs in services has come down between 2004–05 and 2011–12 and moved to industrial, even though the share of GSDP in services has gone up.

[15] 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.

Table 1.11: Labour Inputs across Sectors (%), 2004–05 and 2011–12

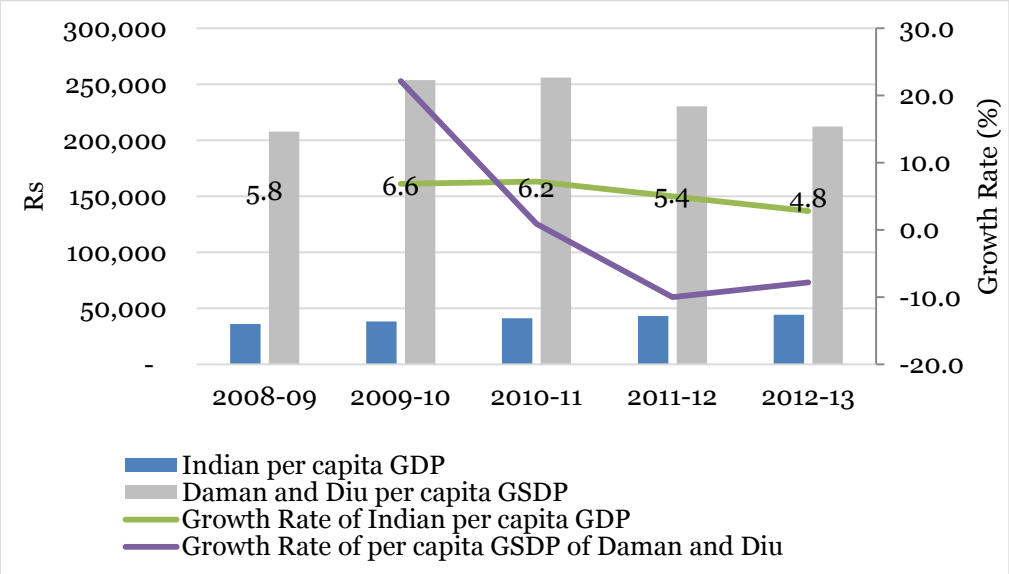
	Daman and Diu		*India*	
	2004–05	*2011–12*	*2004–05*	*2011–12*
Agriculture	33.4	9.8	62.6	49.7
Industry	28.1	64.7	16.8	26.0
Services	38.5	25.5	20.6	24.3

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 both in the agricultural sector and the services sector. Approximately 10per cent of the labour force is producing 0.3 per cent of the GSDP in the agricultural sector and 25.5 per cent of the labour force is producing 15.3 per cent of the GSDP. Daman and Diu has relatively high labour productivity in the industrial sector, with 64.7 per cent of the labour force devoted to producing 83.8 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 Daman and Diu from Gujarat on a regular basis to work in the UT. Those numbers are not accounted for in any available database.

1.6.3 Per capita Income

Figure 1.10: Per capita Income (₹ per capita) and Growth Rate (%), 2008–09 to 2012–13



Note: The values show the gap between Indian per capita GDP and the per capita GSDP of Daman and Diu.
Source: NCAER computations.

Figure 1.10 compares the per capita income of Daman and Diu and India and shows that the Indian per capita income is on average 5.8 times lower than the UT's for the period studied. Further, the gap has tended to reduce over the five-year period. This is probably because Indian GDP growth has been positive with population growth

moderating, while the GSDP of Daman and Diu shows negative growth and population increasing.

1.6.4 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 state[16]. Therefore, one would use the information more as 'perceptions' regarding the state in this particular arena rather than firm evidence.

1.6.4.1 Labour Participation

Table 1.12 shows the labour force participation rate (LFPR) across gender and regions over two time periods. Two points that stand out are the different dynamics that are driving the LFPR of both the genders in the UT and the different trends versus India.

Table 1.12: 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: DNH stands for Dadra and Nagar Haveli. M stands for male; F for female and P for persons.
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*: In rural areas, both LFPR indicators have gone up between 2004–05 and 2011–12 in the UT, whereas it has come down in India. This is because the LFPR in rural areas has gone up for males and gone down for females between the two periods.

[16] To quote the NSSO, it says that "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".

In contrast, in urban areas, both LFPR indicators have come down, which is similar to overall Indian trends. The male and female LFPRs have come down between the two periods. However, the LFPR ages 15 and above shows an increase for males and a fall for females.

- *Daman and Diu versus India*: In rural 2004–05, male LFPR is higher in the UT than in India and female LFPR is lower, making the LFPR lower in Daman and Diu versus India in this year. However, there is a reversal in 2011–12. Female LFPR in Daman and Diu continued to be lower than in India, but male LFPR shot up. These trends hold for both indicators of LFPR.
  Urban areas tell a different story. The overall LFPR is higher in urban Daman and Diu than in India in 2004–05, but the LFPR for ages 15 and above is lower. This is because the overall LFPR in Daman and Diu is higher than in India for both males and females. But the LFPR for ages 15 and above is lower in Daman and Diu than in India for urban males and higher for urban females. In 2011–12, there is some reversal. The overall LFPR in Daman and Diu is lower in the UT versus India because the female LFPR is significantly lower and male LFPR is higher. The LFPR for ages 15 and above is slightly higher in the UT versus India because both male and female LFPRs are higher. The main point is that both the LFPRs of Daman and Diu in rural areas are better than India's in 2011–12. In urban areas, the LFPR for ages 15 and above is higher in the UT versus India. The gap between the Indian and Daman and Diu numbers is lower in urban areas than in rural areas.
- *Dadra and Nagar Haveli versus Daman and Diu*: In 2004–05, the LFPR in the former was higher than the latter. Significant exception was the female urban LFPR. In 2011–12, male LFPR was lower in Dadra and Nagar Haveli versus Daman and Diu whereas female LFPR was higher. Overall LFPR was lower in Dadra and Nagar Haveli versus Daman and Diu. The counter-intuitive result is due to the sex ratio. Number of females per 1,000 males is 774 in Dadra and Nagar Haveli versus 618 in Daman and Diu.
- *Rural versus Urban*: When we compare rural versus urban areas in 2004–05, we find that the overall LFPR is higher in urban areas because both male and female LFPRs are higher in the urban areas. However, when we look at the LFPR for ages 15 and above, it is higher in rural areas for males, which is similar to India. For females the urban LFPR for ages 15 and above was higher, quite in contrast to the rest of India. Therefore, the overall LFPR for ages 15 and above is lower for urban areas than rural areas in 2004–05.
  In 2011–12, the urban LFPRs are lower than the rural LFPRs. This is because male LFPR is lower in rural areas than in urban areas in this period and female LFPR is higher. Overall, in India female LFPR in urban areas is lower than in rural areas.
- *Male versus female*: The LFPR of males is higher than that of females, which is similar to the rest of India. The gap in rural Daman and Diu is particularly wide when one compares it to India. In this matter, one would perceive that the LFPR of women is lower vis-à-vis men, similar to overall Indian trends.

1.6.4.2 Unemployment Rate

Unemployment rates have fallen both in rural and urban areas between 2004–05 and 2011–12 for the UT. Unemployment rates are lower in Daman and Diu versus India. Urban unemployment rates are relatively higher than rural ones in the UT.

Female unemployment rates are equal or higher in the UT. The significant exception was in the rural area in 2004–05. Table 1.13 signals that female unemployment in urban areas continues to be a problem. The fall in unemployment rate of females between 2004–05 and 2011–12 may be deceptive. Urban female LFPR has come down between 2004–05 and 2011–12, which means that some people may have left the job market or stopped looking for jobs, reducing the denominator and increasing the numerator.

Table 1.13: 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***	***F***	***M***	***F***	***P***	***M***	***F***	***P***
Daman and Diu	4	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 persons.
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.

1.6.4.3 Employment by Education Level

Between 2004–05 and 2011–12 the workforce in Daman and Diu is characterised by people having attained higher levels of education. Further, the employed people in the UT is characterised by people having diplomas/certificates. This is significantly different from India. Plus the workforce in the UT is characterised by higher education than India. The urban work force is also more educated. In 2011–12, in rural Daman and Diu, there were 727 workers per 1,000 workers with primary schooling in rural areas. This number is far lower than urban Daman and Diu in the same year. However, a larger proportion of the workforce in urban Daman and Diu has attained higher secondary education. This number is significantly lower in the rural part of the UT. The most interesting part is that there is relatively lower difference in the educational attainment of workers when one looks at the following categories – diploma/certificate course, graduate and graduate and post-graduate and above.

Table 1.14: 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 Level*	*2004–05*		*2011–12*	
		Rural	*Urban*	*Rural*	*Urban*
Daman and Diu	Not literate	523	459	319	354
	Literate and up to primary	621	588	727	494
	Middle	630	257	603	446
	Secondary	521	419	311	354
	Higher secondary	552	454	235	635
	Diploma/certificate course	1,000	1,000	983	1,000
	Graduate and above	536	858		
	Graduate			519	556
	Post-graduate and above			837	857
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.

1.6.4.4 Employment by Work Category

Table 1.15: 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*
Daman and Diu	Self-employed	344	447	96	355
	Regular wage/Salaried Employees	249	365	889	538
	Causal Labour	410	188	14	107
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.

Unlike the Indian trends, Daman and Diu is characterised by workforce in the regular wage/salaried category especially in rural areas. There is increase in regularisation of workforce in 2011–12 versus 2004–05 (Table 1.15). The CAGR of

regular wage/salaried employees in Daman and Diu in rural areas was 19.9 per cent in rural areas and 5.7 per cent in urban areas between the two above mentioned years. The corresponding Indian numbers were 3.3 and 1.4 per cent, respectively.

1.6.4.5 Analysis

We do not know the economic growth rate of Daman and Diu, but we know that in 2011–12 the economy was in a mild recession and there was a moderate recovery in 2012–13. Second, the economy is characterised by registered manufacturing which is the dominant sector. Third, the economy is characterised by high migration in the five years before 2007–08. While we do not have numbers for the subsequent years, it would be fair to assume that some migration must have continued, although it might have weakened with a slowing economy. Further anecdotal evidence also suggests that there is daily migration of workers from Gujarat coming down to the UT to work.

The slowdown in the economy coincided with the labour force participation rate going up for males but coming down significantly for females. The overall LFPR went up in rural areas but came down in urban areas. And despite the LFPR going up in rural areas, unemployment rates went down, which means that more people were finding jobs. This is true for both males and females. This runs counter to economic intuition where we know the relationship should be positive

Unemployment rates went down in urban areas too. This might be due to people leaving the labour force.

Further, more workers were employed as regular/wage workers in 2011–12 versus 2004–05. The composition of the Daman and Diu economy also means that people with technical and diploma degrees are more likely to get jobs in its large industrial sector. This is reflected in the statistics above.

Daman and Diu is also characterised by low participation of females in the labour market. This can be explained by a variety of a factors such as economic slowdown, composition of the economy (the industrial sector tends to hire fewer women), in-migration of male labour in the UT's labour market, out-migration of female workers due to marriage and, last but not least, barriers against women's entry into the labour force due to cultural factors.

A more careful analysis would require more data and here we can only present possible hypotheses. As the share of the services sector especially business services sector improves, one would hope for more feminisation of the labour force especially at the upper end of the education category and in urban areas. Overall, this gives pointers to the government to which areas need their focus.

1.7 Infrastructure

1.7.1 Electricity

Census 2011–12 shows that 99.1 per cent of households use electricity as their main source of lighting[17]. The corresponding numbers for rural and urban areas are 98.3 and 99.3 per cent, respectively. There is a marginal difference in the districts, with the percentage being 98.9 per cent in Diu and 99.1 per cent in Daman. Rural Daman is the weakest performer on this metric with 97.9 percent of households using electricity as their main source of lighting. One hundred percent of villages are electrified[18]. The ASER data shows that for rural Daman and Diu, the percentage of households with electricity connections has fallen from 99.5 in 2011 to 97.2 in 2014[19].

1.7.2 Transport

There are no major railways that run through Daman and Diu. It has two minor ports, one in Daman and another in Diu. No data are available on minor ports separately for the UT. The data for Goa, Daman and Diu are clubbed together.

The UT has two airports – one in Diu and the other in Daman. In the Airports Authority of India, the Diu airport shows up as neither operational nor non-operational[20]. Being one of the smaller airports, there are no detailed passenger or freight statistics available. A Google search shows that a private airline flies every day in the afternoon from Mumbai. The Daman airport is owned by the Coast Guard, but there is some discussion of opening a civil wing.

The total length of roads in Daman and Diu increased from 229km in 2008–09 to 237 km in 2011–12, and then declined to 190 km in 2012–13[21]. This translates into 1.7 km of road per square kilometre or 0.001 km per capita (using population data from 2011). Neither national highways nor state highways run through the UT. Daman and Diu had 40km of other PWD roads in 2012–13, of which 27 km were standard single or below standard single lane[22]. Clearly, road transport is the key mode of transport in the UT, but the quality of roads is a concern.

While roads length shows little increase or even a fall, the number of registered motor vehicles shows an increase at a higher pace. The number of registered motor vehicles has shown a CAGR of 7.6 per cent between 2002 and 2012[23]. As of 31March 2012, the UT had 85,000 registered motor vehicles, the fifth lowest in the country, up from 45,000. Census 2011 shows that 30.4 per cent of households had a bicycle, 31.5 per cent of households had a scooter/motorcycle/moped and 5.9 per cent of

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[17] 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.

[18]Department of Planning and Statistics, U.T. Administration of Daman and Diu, Secretariat Daman. 2014. Statistical Diary 2013–14. August.

[19]ASER Centre. http://www.asercentre.org/Keywords/p/234.html.

[20] Airports Authority of India. http://www.aai.aero/allAirports/airports.jsp#

[21] 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.

[22] Surfaced roads having clear carriageway width of 10.5 m and above.

[23] Transport Research Wing, Ministry of Road, Transport and Highways, Government of India. Road Transport Yearbook 2011–12. http://morth.nic.in/index2.asp?slid=291&sublinkid=137&lang=1.

households had a car/jeep/van[24]. In rural Daman and Diu, 40 per cent of households had a two-wheeler. A higher percentage of households in Diu (45.1%) own two-wheelers versus Daman (28.5%). Out of 84,856 registered vehicles, 52,339 are two-wheelers, i.e., 61.7 per cent[25]. Daman and Diu had a bus fleet of 563 buses in March 2012, none of which were in the public sector.

The road safety statistics in the UT are given below. Overall, Daman and Diu showed some improvement in 2014 but whether it is sustainable will only be seen in the future. Clearly, the UT needs to improve its road safety.

- The number of road accidents per 10,000 vehicles was 6.4 in 2013. The number of road accidents per 10,000 km of roads increased from 2,115 in 2011 to 3,105 in 2013. This is only lower than Goa (3,702) on this metric and significantly higher than the national average (1,123).In 2011 and 2012, Daman and Diu had 50 road accidents, which increased to 59 in 2013, falling to 39 in 2014[26].
- In 2014, out of the 39 accidents, there were 15 fatal accidents, 20 grievous injury accidents and 4non-injury accidents. From 66 people killed per 100 accidents in 2011, the number has come down to 38.5 in 2014. The national averages are lower. The number of persons killed in road accidents per lakh population has fallen dramatically, from 10.6 in 2013 to 4.9 in 2014.
- The total number of persons injured in road accidents per lakh population shows a drop from 25.6 in 2013 to 16.1 in 2014.
- In Daman and Diu, there were a higher number of accidents in rural areas (23) versus urban areas (16). Also, the severity of accidents is higher in the former area with a higher number of fatalities.

1.7.3 Communications

Census 2011 shows that 76 per cent of households have a mobile phone, 2.8 per cent have a computer with Internet and 6.5 per cent of households have a computer without Internet[27]. There is a gap between Daman and Diu—70.6 per cent of households have a mobile phone in Daman versus 59 per cent in Diu.

The ASER data shows that the percentage of households in rural areas with at least one member who knows how to operate a computer has hardly changed from 33.2 per cent in 2010 to 33.4 in 2014[28].

As per Census 2011, 65.4 per cent of households were using a bank account.

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[24] 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.
[25] Transport Research Wing, Ministry of Road, Transport and Highways, Government of India. Road Transport Yearbook 2011–12. http://morth.nic.in/index2.asp?slid=291&sublinkid=137&lang=1.
[26] Transport Research Wing, Ministry of Road, Transport and Highways, Government of India. Road Accidents in India 2014. http://morth.nic.in/showfile.asp?lid=1780. August.
[27] 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.
[28]ASER Centre. http://www.asercentre.org/Keywords/p/234.html.

1.7.4 Drinking Water and Sanitation

Census 2011 reports that 54.6 per cent of households use treated tap water for drinking purposes, 20.6 per cent use untreated tap water and 18.1 per cent of households use the tubewell/borewell[29]. Further, 76.5 per cent of households access drinking water from a treated source in rural areas versus 48.7 per cent of households in urban areas. The gap between Daman and Diu is also quite wide. While 97.8 per cent of households use treated tap water as their main source of drinking water in Diu, the corresponding number in Daman is barely 45.3 per cent. In Daman, 24.3 per cent of households use untreated tap water and 21.9 per cent of households use tubewell/borewell as their main source of drinking water. The majority of households have drinking water within their premises (76.4%) with marginal differences between urban and rural areas.

Urban areas outperform in terms of sanitation. The percentage of rural households with latrine facility is 51.4 per cent and the corresponding number for urban households is 85.3 per cent in 2011. Overall in Daman and Diu, 78.2 per cent of households have a latrine facility with 71.5 per cent using a septic tank. Only 5.3 per cent of households use a piped sewer system. There is a stark difference between rural and urban areas. In urban Daman and Diu, 85.4 per cent of households have a latrine facility versus 51.4 per cent in rural areas.

34.8 per cent of households in Daman and Diu have no drainage for wastewater outlet. There are significant gaps in Daman and Diu with 26.8 per cent and 72.4 per cent of households, respectively, having no drainage. And since we know that Diu is mostly rural and Daman is mostly urban, these numbers are reflected too in the urban-rural gap. In rural Diu, 94.1 per cent of households do not have drainage whereas in urban Daman it is 19.4 per cent.

1.7.5 Analysis

In terms of energy access, Daman and Diu 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.

1.8 Education

1.8.1 Quantity

Daman and Diu has a literacy rate (seven plus years of age) of 87.1 per cent as per Census 2011, with a higher literacy rate for males (91.5%) than females (79.5%). It is the sixth most literate state/UT in the country. Dadra &Nagar Haveli is at a distant 19th rank. Figure 1.11 shows educational level by gender. 54 per cent of people have finished either primary or middle school or matriculation. Notably, only in primary

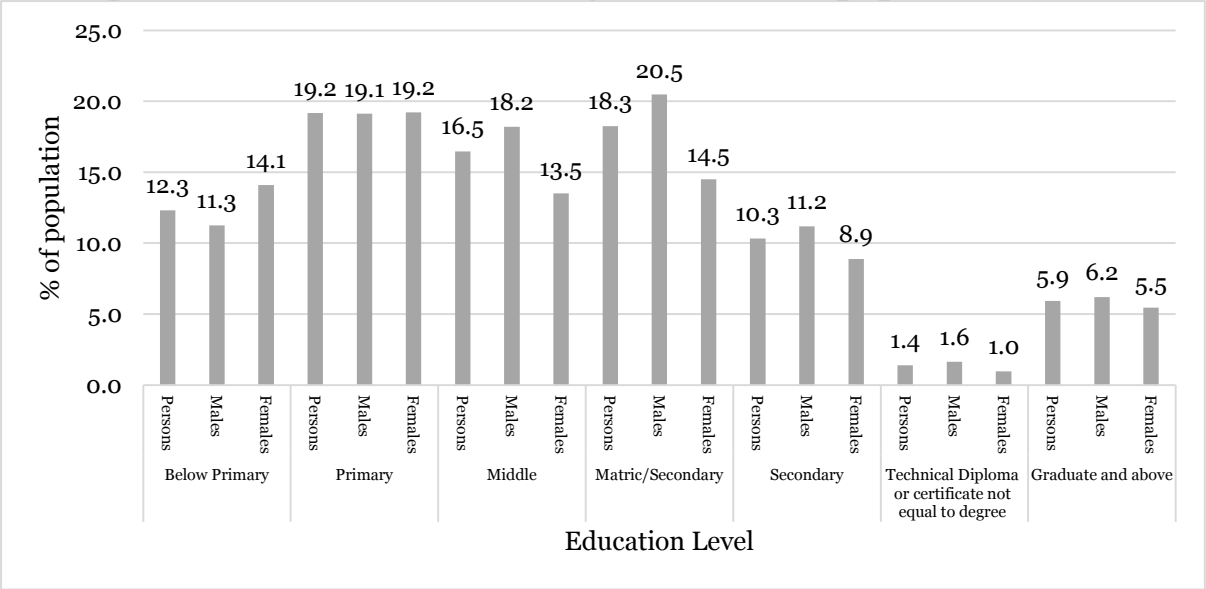
[29] Office of the Registrar General and Census Commissioner of India, Government of India, Ministry of Home Affairs. Census 2011. http://www.censusindia.gov.in/2011census/hlo/Houselisting-housing-PCA.html.

schooling is the percentage of males equal to females. The Gross Enrolment Ratio (GER) for various levels of schooling in 2014–15 are[30,31]:

- Primary level – 85.5
- Upper primary level – 83.7
- Elementary level – 84.8
- Secondary level – 74.9
- Higher Secondary level – 37.5

The ASER data shows that 77.8 per cent of sampled children in rural areas were enrolled in government schools in 2014 and 21.5 per cent in private schools[32]. In 2008, the corresponding figures were 70.53 per cent and 27.04 per cent.

Figure 1.11: Educational Level by Gender (% of population), 2011



Note: 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 graph.
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/.

The DISE statistics show that the sampled schools (145 in 2014–15) including rural and urban areas, have the following characteristics[33]:

- 100% of schools had drinking water facilities and boys' and girls' toilets in the school.
- 94.5 per cent of schools had a medical check-up done in the previous academic year.

[30] 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
[31] 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.
[32] ASER website. ahttp://www.asercentre.org/education/data/india/statistics/level/p/66.html.
[33] 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.

- 49.6 per cent of schools had a playground facility.
- 96.6 per cent of schools had a library facility.
- 100 per cent of schools had an electricity connection.
- 66.2 per cent of schools had a computer.
- 100 per cent of schools had a building.
- 91.7 per cent of schools had a boundary wall.
- 63.5 per cent of schools had a separate room for a headmaster.

The challenge for the UT will be that if they need a higher rate of growth and want to widen their industrial base with jobs in sectors that require higher skills, the UT will have to invest in school education and higher education. Female literacy and education should be one focus of the UT. There is substantial room for improvement in school facilities.

1.8.2 Quality

Table 1.16: 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)*	*Level 2 (Std. II text)*
Percentage of Children by Reading level	2008	Daman and Diu	2.4	13.5	17.4	26.3	40.4
		India	9.0	16.4	15.6	18.0	41.0
	2012	Daman and Diu	11.3	15.7	19.7	24.4	28.9
		India	12.8	19.5	15.0	15.0	37.7

		Region	*Not even 1–9/Nothing*	*% of children who can Recognize numbers*		*Subtract*	*Divide*
				1–9	*10–99*		
Percentage of Children by Arithmetic level	2008	Daman and Diu	4.1	16.3	24.5	31.2	24.0
		India	8.8	18.4	22.4	22.5	27.9
	2012	Daman and Diu	10.1	19.1	30.2	22.3	18.3
		India	10.7	22.0	26.6	20.7	20

Note: Statistics after 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.

The ASER Survey 2012 gives an indication of the quality of education in the UT (Table 1.16). The score is mixed when it comes to reading. There is a drop in performance between 2008 and 2012, because a higher percentage of children are not even able to recognise a letter and a lower percentage of children are able to read a Standard 1 text. A significant drop is seen in Level 2 children reading Standard 2 texts, where Daman and Diu continues to perform worse than India in both years. However, letter and word recognition improve between 2008 and 2012, indicating mixed performance.

We see similar trends in arithmetic. There is improvement in recognising numbers over time. Daman and Diu continues to perform worse than India in the percentage of children who are able to divide.

This means that while Daman and Diu is highly literate and has a high GER, the quality of education is average. Daman and Diu is performing around the Indian average, which is not too high anyway. There is a significant need to improve its educational quality. If this trend continues, the UT might lose its present comparative advantage in industry too and if it wants to develop comparative advantage in industries that require higher skills, educational quality needs to be strengthened.

1.9 Health

Daman and Diu is outperforming India in terms of its health indicators. The UT shows falling birth rates (28 per 1,000) and death rates (5 per 1,000) from 1987–88. However, its infant mortality rate per 1,000 live births shows an increase from 15 in 1987–88 to 22 in 2013–14 (Table 1.17a).

Table 1.17a: Health Statistics, 2013–14

S. No.	*Particulars*	*Unit*	*Daman & Diu*	*India*
1.	Birth Rate	per 1,000 population	18.1	21.6
2.	Death Rate	per 1,000 population	4.8	7
3.	Natural Growth rate	per 1,000 population	13.3	14.5
4.	Infant Mortality Rate	per 1,000 live births	22	42

Source: 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.

It is not surprising that we see a fall in infrastructure. Daman and Diu had only 0.3 doctors per 1,000 people and 1.03 hospital beds per 1,000 people (Table 1.17b) in 2013–14. This is fairly low compared to the Indian number in 2012, which was 0.7 doctors per 1,000 people[34].

Table 1.17b: Infrastructure in Medical and Health Services, 1987–88 and 2013–2014

S. No.	*Infrastructure*	*1987–88*			*2013–14*		
		Daman	*Diu*	*Total*	*Daman*	*Diu*	*Total*
1.	Hospital	1	1	2	1	1	2
2.	Community Health Centre	0	0	2	1	1	2
3.	Primary Health Centre	1	1	2	2	1	3
4.	Sub-Centre	9	7	16	20	6	26
5.	Number of Doctors	16	8	24	58	34	92
6.	Number of Beds	70	30	100	202	76	278

Source: SRS Bulletin via Department of Planning and Statistics, U.T. Administration of Daman and Diu, Secretariat Daman. 2014. Statistical Diary 2013–14. August.

[34] Central Bureau of Health Intelligence. http://www.cbhidghs.nic.in/writereaddata/mainlinkFile/Human%20Resources%20in%20Health%20Sector-2012.pdf

1.10 Poverty

The available numbers for poverty rates are not reliable because they are conflicting. Further, they 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 decreased between 2004–05 and 2011–12. In 2004–05 urban poverty was lower than rural poverty, but in 2011–12 that has reversed. Poverty is lower in the UT versus India. In India, poverty has reduced between the two periods and rural poverty is higher than urban poverty.

Table 1.18: Percentage of Population below Poverty Line by State, 2004–05 and 2011–12 (Tendulkar Methodology using all-India poverty line)

	Daman and Diu			*India*		
	Rural	***Urban***	***Total***	***Rural***	***Urban***	***Total***
2004–05	6.8	2.3	5.2	41.8	25.7	37.2
2011–12	0.0	9.1	2.8	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 Daman and Diu.
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 for urban areas it was `1,407 per capita per month. The Rangarajan methodology shows that 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.

The increase in urban poverty in Daman and Diu also indicates that the slowdown in economic growth after 2009–10, especially due to the recession in the manufacturing sector, was having a negative impact on the economy. The analysis has shown that unemployment rates may have fallen but LFPR also fell, indicating that people went out of the labour force probably because they were not able to find a job. In conclusion, the rise in urban poverty is consistent with our evidence that economic growth in Daman and Diu is weak.

1.11 Inequality

Table 1.19 shows that the share of consumption expenditure of the top 20 per cent of the population has decreased, from 40.1 per cent in 2004–05 to 34 per cent in 2011–12. And the share of the bottom 20 per cent has increased. 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, Daman and Diu was relatively more equitable than the rest of India.

Table 1.19: Quintile Share in Total Household Consumption Expenditure, 2004–05 and 2011–12

	Daman and Diu		*India*	
Quintile	*2004–05*	*2011–12*	*2004–05*	*2011–12*
I	9.0	9.7	9.5	8.8
II	13.6	15.9	13.2	12.8
III	15.8	20.5	16.6	16.4
IV	21.5	19.9	21.6	21.7
V	40.1	34.0	39.1	40.3

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

1.12 Environment

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

1.12.1 Air Quality

There are two monitoring stations in Daman and Diu. Air quality is relatively clean[35]. Annual mean concentration range of sulphur dioxide (SO_2) is low (7μg/m3or seven micrograms per cubic metre of air), i.e., ranging between zero and25. Nitrogen dioxide is just within the low range. The annual mean concentration is 18 μg/m3 and it should range between 0 and20 μg/m3. The annual mean concentration of PM_{10} (particulate matter up to 10 micrometres in size) is moderate. It is 35 μg/m3, when the moderate range is from 31 to 60 μg/m3.

1.12.2 Water Quality

1.12.2.1 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 – 2011'[36], the water quality of the river Damanganga does not meet the desired water quality criteria at 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.

[35] Central 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.
[36] Central Pollution Control Board, Ministry of Environment and Forests. 2013. Status of Water Quality of India in 2011. http://www.cpcb.nic.in.

- The BOD[37] concentration level in Damanganga has increased between 2010 and 2011 from 32 milligrams/litre (mg/l) to 354 mg/l[38]. 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)[39] observed in Damanganga is 1.4 mg/l. It should be above 4 mg/l.
- The average pH[40] balance is 8.1, which is within the range of 6.5–8.5.
- The nitrate plus nitrite[41] should be less than 10 mg/l for human consumption and in 2011 the average was 3.6 mg/l.
- Faecal coliform[42] was 35MPN/100ml, which should be below 2,500 MPN/100ml[43].
- Total coliform was 46 MPN/100ml, which should be below 5,000 MPN/100ml[44].

1.12.2.2 Groundwater

There are seven groundwater monitoring locations in Daman (and none in Diu). The 2011 indicators show that groundwater quality does not meet the desired targets.

- The pH balance should be greater than 4 mg/l and the average is 7.2 mg/l.
- The BOD should be less than 3mg/l but it is 8mg/l.
- The average nitrate plus nitrite is within limits as it is 1.9mg/l and it should be below 3mg/l.
- The average total coliform is 6.3 MPN/100ml and it is within targets.
- Fluoride should be below 2,500 MPN/100ml and the average is 0.4 MPN/100ml.

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[37] 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.

[38] Milligrams per litre.

[39]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/.

[40] 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

[41]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.

[42]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

[43] 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/.

[44]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

1.13 The Way Forward

The above analysis has given overview of the economy of Daman and Diu in all its aspects. The UT is dominated by registered manufacturing. Its per capita income is approximately five times that of India. However, the growth of the economy has faltered, with slowing growth in manufacturing. The rise in urban poverty is possibly a consequence of the slowing growth. However, the vibrant manufacturing sector has attracted migrant workers to the UT. The workforce is literate but there are very few people are who are graduate and above. Educational quality performance is mixed. There are hints of gender bias from birth to the workplace. Health infrastructure is lagging behind. Air quality is more or less clean, but water quality is suspect.

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

Chapter 2: Agriculture and Allied Activities Sector

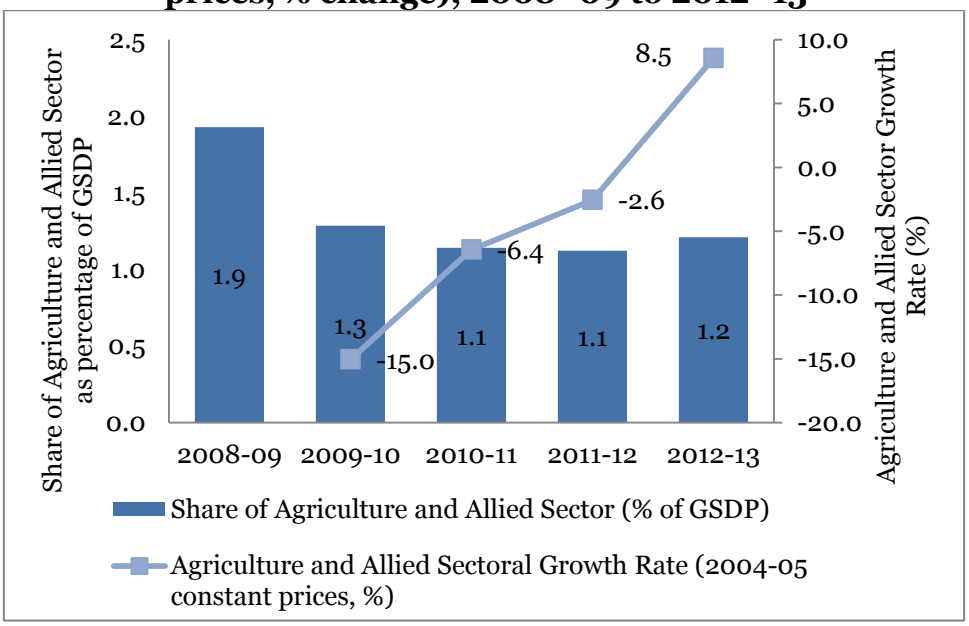
2.1 Introduction

The agriculture and allied activities sector consists of agriculture proper, including growing both forecast and horticulture crops and livestock and animal husbandry; forestry and logging; and fishing. The sector forms less than two per cent of Daman and Diu's Gross State Domestic Product (GSDP). Its share has averaged around 1.3 per cent between 2008–09 and 2012–13 (Tables 1.7 to 1.10). The share of the sector has declined over time (Figure 2.1), barely increasing in 2012–13 largely because of the increase in the fishing sector. Further, the sector is characterised by volatile growth rates. The National Sample Survey (NSS) reveals that in 2011–12, 9.8 per cent of the total labour inputs were engaged in the agriculture sub-sector. Chapter 1 shows that there is very low labour productivity in the sub-sector.

Within this sector fisheries is the dominant sub-sector, especially marine fish. The average share of marine fish in the agriculture and allied sector is almost 70 per cent and its share of GSDP is 0.94 per cent for the period of our study. Growing of crops and livestock and animal husbandry occupy a distant second position in terms of average share of GSDP. The average growth rates for all three sub-sectors discussed above are negative between 2008–09 and 2012–13.

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

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

Year	*Agriculture Proper*	*Growing of crops*	*Livestock and Animal husbandry*
At Current Price (₹lakh)			
2008–09	1,790	1,009	781
2009–10	2,233	1,239	994
2010–11	2,451	1,282	1,170
2011–12	2,734	1,412	1,322
2012–13	2,472	1,467	1,004
At Constant Price (2004–05 prices, ₹lakh)			
2008–09	1,456	747	710
2009–10	1,486	748	738
2010–11	1,493	721	772
2011–12	1,552	749	803
2012–13	1,266	739	527
Share of GSDP (2004–05 prices, %)			
2008–09	0.32	0.16	0.16
2009–10	0.26	0.13	0.13
2010–11	0.25	0.12	0.13
2011–12	0.26	0.12	0.13
2012–13	0.21	0.12	0.09
Share of Agriculture and Allied Activities (2004–05 prices, %)			
2008–09	16.7	8.5	8.1
2009–10	20.0	10.1	9.9
2010–11	21.5	10.4	11.1
2011–12	22.9	11.1	11.9
2012–13	17.2	10.1	7.2
Share of Agriculture Proper (constant 2004–05 prices, %)			
2008–09	100.0	51.3	48.7
2009–10	100.0	50.3	49.7
2010–11	100.0	48.3	51.7
2011–12	100.0	48.2	51.8
2012–13	100.0	58.3	41.6
Growth Rate (constant 2004–05 prices, %)			
2009–10	2.1	0.2	4.1
2010–11	0.4	–3.6	4.5
2011–12	4.0	3.9	4.1
2012–13	–18.5	–1.3	–34.4

Source: NCAER computations from National Accounts Division and relevant departments of UT administration.

The average percentage share of agriculture proper for the period 2008–09 to 2012–13 has been 0.26 per cent of the GSDP and the share has constantly declined overtime (Table 2.1). The decline was particularly steep in 2012–13, because of the drought in that year. The southwest monsoon suffered from 28 per cent deficit from its Long Period Average in that region in 2012[1].

Within the agriculture and allied sector, the percentage share of agriculture proper has averaged around 20 per cent. The two components of agriculture proper, namely, growing of crops and livestock & animal husbandry, contribute nearly equally to the GVA. In 2012–13, we see a sharp drop in the GVA of the livestock &animal husbandry department, which not only pushes down its share in the agriculture proper sector but also the share of the agriculture proper sector in both agriculture and allied activities and GSDP, respectively. Even the GVA of the growing crops sector experiences a fall but it is not as sharp.

2.2.1 Growing of Crops

Growing of crops has stabilised at around 0.12 per cent of GSDP (Table 2.1).It is approximately 10per cent of the agriculture and allied activities sector. The average growth rate for the period has been –0.2 per cent. The growth rate is volatile, with the coefficient of variation of growth rate being 14.1.

Daman & Diu in is only cropping the land once in compared to Dadra and Nagar Haveli and India (Table 2.2). Cultivated area as a percentage of total geographical area in the UT increased after 2009–10, but is still far less than Dadra & Nagar Haveli and India. Further, with no cultivable area under irrigation, there is no scope for double cropping and cropping intensity remains one.

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

	2008–09	*2009–10*	*2010–11*	*2011–12*	*2012–13*
Cultivated area as %age of total area					
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
Cropping intensity (ratio of gross to net cropped area)					
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
%age of irrigated area					
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 65 per cent of the GVA of growing crops and horticultural crops form the rest of the 35 per cent (Table 2.3). The average growth

[1]Indian Meteorological Department, Ministry of Earth Sciences, Government of India. http://www.imd.gov.in/section/nhac/dynamic/mon2012.jpg.

rate of forecast crops is –1.1 per cent during 2008–09 to 2012–13 and that of horticultural crops is 1.7 per cent.

The main contributors to GVA from this sector are paddy, mango, "other pulses" (other than *gram* and *tur*), coconut and *bajra*, with paddy, mango and pulses accounting for 42, 20 and 17 per cent of GVA from growing of crops, respectively (on average for the period 2008–09 to 2012–13)[2]. With coastal weather being favourable for coconut, it accounts for 5per cent of GVA from growing of crops. Coconut grows in both districts. However, paddy is more concentrated in Daman and *bajra* in Diu[3].

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

	Forecast Crops				*Horticultural Crops*			
Year	***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	687	501	67.1		322	245	32.9	
2009–10	793	471	62.9	–6.2	446	277	37.1	13.0
2010–11	843	467	64.9	–0.7	439	253	35.1	–8.7
2011–12	932	484	64.7	3.6	480	264	35.3	4.4
2012–13	975	479	64.9	–1.0	492	260	35.1	–1.8

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

Small farms (between one and two hectares) and marginal farms (below one hectare) together comprise 76.6 per cent of the area operated in Daman and Diu[4]. 92.4 per cent of farmers are marginal farmers who operate 56.8 per cent of agricultural holdings. Further, we use NSSO data (2011–12) to find that overall home-grown consumption as a percentage of total consumption is only 0.96 per cent for all farmers and 0.99 per cent for small and marginal farmers[5]. However, when we look at the percentage of farming households whose principal activity is agriculture (growing of crops and livestock), this is only 19 per cent for all farmers and 19.5 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 72 per cent of all farming households is industry in the UT and this is 72.9 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 secondary income for the majority of small 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] Conventionally pulses data are reported in the following manner – Data are reported separately for *gram* and *tur* and all other varieties of pulses are combined in the category "other pulses".
[3]Department of Planning and Statistics, U.T. Administration, Daman and Diu. 2014. Statistical Diary 2013–14. August.
[4]Agricultural Census 2011–12 via Department of Planning and Statistics, U.T. Administration, Daman and Diu. 2014. Statistical Diary 2013–14. August.
[5] The usual disclaimer about using NSSO data applies that it is a small sample and therefore not reliable. Essentially, it is being used as more as 'perceptions' rather than as representation.

2.2.2 Livestock and Animal Husbandry

This constitutes producing of milk, eggs, wool, dung, meat products and by-products, and silk and honey. The average (for the period of our study) share of livestock and animal husbandry is 0.13 per cent of GSDP and 9.6 cent of the agriculture and allied activities sector (Table 2.1). The average growth rate for the period has been –5.4 per cent. It fell sharply to –34.4 per cent in 2012–13, due to the deficit in the southwest monsoon that year. The coefficient of variation of growth rate is 3.6. Essentially, in livestock and animal husbandry, the volatility is lower but so is the growth rate compared to growing of crops.

The main contributors to GVA in this sub-sector are milk and meat (Tables 2.4a and 2.4b). Within milk, buffalo and cow milk are prominent and within meat, goat and sheep meat are the prominent items. Indigenous cattle are larger in number than crossbred cattle[6]. The number of livestock went down sharply from 5,990 in 2007 to 4,627 in 2012, but the number of poultry went up from 20,728 to 28, 202 for the same years[7]. Further, the presence of animal husbandry, especially poultry, is relatively higher in Daman than in Diu[8].

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	337	42	303	71	28
2009–10	425	50	397	92	32
2010–11	532	57	440	106	34
2011–12	606	68	492	115	40
2012–13	248	59	531	124	43

Source: NCAER computations from NAD and relevant departments of 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

	Milk		*Eggs*		*Meat*		*Meat Products*		*Other livestock Products*	
Year	*GVA*	*GR*	*GVA*	*GR*	*GVA*	*GR*	*GVA*	*GR*	*GVA*	*GR*
2008–09	298		37		285		64		26	
2009–10	324	8.7	37	0.7	288	1.1	64	0.7	26	–2.5
2010–11	356	9.9	37	0.4	289	0.4	65	0.4	26	0.4
2011–12	369	3.6	40	9.0	302	4.6	65	0.3	27	7.0
2012–13	140	–61.9	33	–19.0	294	–2.7	33	–49.2	27	–2.7

Note: GR stands for growth rate.
Source: NCAER computations from NAD and relevant departments of UT administration.

[6] 18th Quinquennial Live Stock Census via Department of Planning and Statistics, U.T. Administration, Daman and Diu. 2014. Statistical Diary 2013–14. August.
[7] Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India. 2014. 19th Live Stock Census 2012: All India Report. http://dahd.nic.in/dahd/WriteReadData/Livestock.pdf. 17th June.
[8] 18th Quinquennial Live Stock Census via Department of Planning and Statistics, U.T. Administration, Daman and Diu. 2014. Statistical Diary 2013–14. August.

The contribution of meat by-products, dung, wool and bristles is minimal. There is no production of silk and honey in the UT.

2.3 Forestry and Logging

As mentioned in Chapter 1, Daman and Diu forests were limited to start with and conservation efforts have increased the area, especially in Diu. Table 2.5 shows that forestry occupies 7.4 per cent of the total geographical area in 2013 and Table 2.6 shows the relatively higher concentration of forests in Diu versus Daman. Compared to India, the recorded forest area is very low. There has been dramatic transformation in the UT between 2003 and 2007 when the recorded forest area (RFA) went up rapidly. The majority of the forest area in the UT is open forest.

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

Region	*Year*	*Geographical Area*	*Recorded Forest Area (RFA) km²**	*Recorded Forest Area (as revised by State Forest Departments)km²*				*%age of GA*
				Reserved Forests	*Protected Forests*	*Unclassed Forests*	*Total RFA#*	
Daman & Diu	2003	112	1	0	1	0	1.0	0.9
	2007		6	0	8	0	8.0	7.4
	2013		8	0.24	0	8.03	8.3	7.4
India	2003	3,287,263	7,68,436	3,99,919	2,38,434	1,36,387	7,74,740	23.6
	2007		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 the Indian Forest Reports.
Reported by the State Forest Department.
Source: Forest Survey of India, Ministry of Environment and Forests, Government of India. India State of Forest Report 2013 and previous issues. http://fsi.nic.in/.

Table 2.6: District-wise Forest Cover of Daman and Diu, 2013 (Area in km²)

Region	Geographical Area (GA)	2013 Assessment				Percent of GA	Change (from 2011)	Scrub
		Very Dense Forest	*Moderately Dense Forest*	*Open Forest*	*Total*			
Daman	72	0	0.69	2.92	3.61	5.01	–0.01	0
Diu	40	0	1.18	4.48	5.66	14.15	3.13	0.96
Grand Total	112	0	1.87	7.40	9.27	8.28	3.12	0.96

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

The share of forestry and logging as a percentage of GSDP has fallen for the sample period of our study and has stabilised around 0.1 per cent. The average percentage share of forestry and logging is 9.1 per cent of the agriculture and allied sector (Table 2.1) and even that shows a declining share over time. In 2012–13 forestry and logging was 7.3 per cent of the agriculture and allied sector. This is the smallest sub-sector within the agriculture and allied sector. Considering the relatively low coverage of forests, this is not surprising. Within the forestry sector, prominent contributors to

GVA are Industrial wood and Trees outside forest that together comprised around 91 per cent of forestry and logging GVA, with the exception of 2009–10 where GVA from Industrial woods accounted for more than 75 per cent of Forestry GVA (Table 2.2). The shares of fuel wood and non-timber are relatively marginal within forestry and logging.

Table 2.7: 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

Year	*Forestry &Logging*	*Industrial Wood*	*Fuel Wood*	*Non-Timber Forest Produce*	*Trees Outside Forests*
At Current Price (₹lakh)					
2008–09	630	286	20	30	295
2009–10	1,377	1,034	27	23	294
2010–11	646	293	37	23	293
2011–12	660	293	51	23	293
2012–13	679	293	70	23	293
At Constant Price (2004–05 prices, ₹lakh)					
2008–09	553	258	14	23	259
2009–10	1,192	906	17	15	254
2010–11	535	257	21	14	243
2011–12	536	257	27	14	238
2012–13	536	257	34	14	231
Share of GSDP (2004–05 prices, %)					
2008–09	0.12	0.057	0.003	0.005	0.057
2009–10	0.21	0.157	0.003	0.003	0.044
2010–11	0.09	0.042	0.004	0.002	0.040
2011–12	0.09	0.043	0.004	0.002	0.039
2012–13	0.09	0.042	0.006	0.002	0.038
Share of Agriculture and Allied Activities (2004–05 prices, %)					
2008–09	6.3	2.95	0.15	0.26	2.96
2009–10	16.0	12.19	0.23	0.20	3.42
2010–11	7.7	3.69	0.31	0.21	3.49
2011–12	7.9	3.79	0.40	0.21	3.51
2012–13	7.3	3.49	0.46	0.20	3.14
Share of Forestry and Logging (constant 2004–05 prices, %)					
2008–09	100.0	46.7	2.4	4.1	46.8
2009–10	100.0	76.0	1.4	1.3	21.3
2010–11	100.0	48.0	4.0	2.7	45.4
2011–12	100.0	47.9	5.0	2.7	44.4
2012–13	100.0	47.9	6.3	2.7	43.1
Growth Rate (constant 2004–05 prices, %)					
2009–10	115.37	250.7	25.7	–33.3	–1.8
2010–11	–55.12	–71.7	25.7	-5.6	–4.5
2011–12	0.12	0.0	25.7	0.0	–2.0
2012–13	0.05	0.0	25.7	0.0	–2.8

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

Growth here is also very volatile except for fuel wood[9]. The growth rate of Trees outside forests has been constantly negative throughout the period of our study.

2.4 Fisheries

Fisheries is the most important sub-component in the agricultural and allied sector. It forms, on average (for the period of our study), 0.96 per cent of GSDP and within that marine fish is 0.94 per cent of GSDP (Table 2.8). More than 70 per cent, on average, of agricultural and allied sector GVA come from fisheries. Approximately 98 per cent on average of the Fisheries GVA comes from marine fish. In 2011–12, marine fish comprised the whole of the fisheries sector.

The majority of fish production takes place in Diu[10]. Approximately 60 per cent of fishing gear craft is made up of trawlers. Identity cards have been issued for active fishermen and women.

However, the average growth rate of the marine fish has been negative for the period of our study (–3.8%). The coefficient of variation is also quite high and even eyeballing the data in Table 2.8 confirms the volatility of growth rates in this sector. In 2012–13, we see double-digit growth in the sector, but whether or not that is sustainable is questionable.

2.5 The Way Forward

Forestry and fishing are concentrated in Diu but growing of crops and poultry farming is mostly concentrated in Daman. The overall sector is dominated by marine fish. Overall, all the sub-sectors are characterised by volatile growth. Plus, there is limited data to further analyse its linkages with the rest of the economy because the NSS data, the source of all household data in India, does not have reliable data for the UT.

The first step is to conduct a representative survey of the UT along the lines of the NSSO household survey to collect reliable evidence for the UT. Second, we have to stabilise the growth of the sector and its sub-sectors. In forestry, we have to continue with conservation and re-forestation efforts, in both Daman and Diu. Marine fishing growth has to be stabilised and encouraged in an environmentally sustainable manner. Plus, processing of the fish will add value to the product; industry data sources suggest no presence of fish processing in the UT. Finally, one has to encourage sustainable growth of agriculture proper by increasing agricultural productivity. Agro-processing needs to be encouraged.

[9] GVA of fuel wood has been estimated using household consumption estimates from NSSO 2004–05 and 2011–12. Using the calculated Compound Annual Growth Rate (CAGR) from those two years, the numbers for the intervening years were interpolated. That explains the constant growth rate. Seen Annex 1 for further details.

[10] Department of Planning and Statistics, U.T. Administration, Daman and Diu. 2014. Statistical Diary 2013–14. August.

Agriculture proper may be linked with rapidly urbanising Daman. Marketing of local, organic farm products has to be encouraged. Urban residents should be able to access the local organic farm products through farmers' markets and the products may be sold to neighbouring Gujarat. This has important health implications. Food made with local ingredients and served to the thriving industrial sector during lunches should be encouraged too. This will give a boost to agriculture, industry and services, encourage healthy workers and sustain the environment.

Table 2.8: Fisheries, Gross Value Added (current and constant 2004–05 prices, ₹lakh), Growth Rates (%) and Share of Gross Value Added (%), 2008–09 to 2012–13

Year	*Fisheries*	*Inland Fish*	*Marine Fish*	*Prawn*
At Current Price (₹lakh)				
2008–09	7,958	44	7,787	127
2009–10	7,341	0	7,262	79
2010–11	9,172	63	8,858	251
2011–12	9,417	0	9,417	0
2012–13	12,036	141	11,546	349
At Constant Price (2004–05 prices, ₹lakh)				
2008–09	6,734	37	6,589	108
2009–10	4,750	0	4,699	51
2010–11	4,922	34	4,753	135
2011–12	4,684	0	4,684	0
2012–13	5,549	65	5,323	161
Share of GSDP (2004–05 prices, %)				
2008–09	1.49	0.01	1.45	0.02
2009–10	0.82	0.00	0.81	0.01
2010–11	0.81	0.01	0.78	0.02
2011–12	0.78	0.00	0.78	0.00
2012–13	0.91	0.01	0.88	0.03
Share of Agriculture and Allied Activities (2004–05 prices, %)				
2008–09	77.0	0.43	75.35	1.23
2009–10	63.9	0.00	63.25	0.69
2010–11	70.8	0.49	68.40	1.94
2011–12	69.2	0.00	69.17	0.00
2012–13	75.5	0.89	72.42	2.19
Share of Fisheries (constant 2004–05 prices, %)				
2008–09	100.0	0.6	97.8	1.6
2009–10	100.0	0.0	98.9	1.1
2010–11	100.0	0.7	96.6	2.7
2011–12	100.0	0.0	100.0	0.0
2012–13	100.0	1.2	95.9	2.9
Growth Rate (constant 2004–05 prices, %)				
2009–10	–29.5	N.A.	–28.7	–52.5
2010–11	3.6	N.A.	1.2	162.9
2011–12	–4.8	N.A.	–1.5	N.A.
2012–13	18.5	N.A.	13.6	N.A.

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

Chapter 3: Industry

3.1 Introduction

The industry sector comprises four sub-sectors, namely, mining & quarrying, manufacturing, construction and electricity, gas & water supply. Since there are very few activities related to mining &quarrying in this UT, it does not contribute to the industrial GVA of Daman and Diu except in 2009–10 when there were minor mining activities. Essentially, industry in Daman and Diu consists of three sub sectors—manufacturing, construction and electricity, gas & water supply. Among them, the manufacturing sector is the largest, both within the industry and in overall GSDP.

The industrial sector GVA forms (on average between 2008–09 and 2012–13) 84.2 per cent of the UT's GSDP. The share has come down steadily, from 86.8 per cent in 2009–10 to 80.3 per cent in 2012–13 (Table 3.1). The growth rate of industry has come down steadily after peaking in 2009–10.

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

Year	*Current GVA (₹lakh)*	*Constant GVA at 2004–05 prices (₹lakh)*	*Share of Industry as a percentage of GSDP*	*Growth Rate of Constant Industrial GVA*
2008–09	4,88,073	3,84,034	84.7	
2009–10	6,38,039	5,01,708	86.8	30.6
2010–11	7,11,150	5,21,966	85.7	4.0
2011–12	7,39,621	5,05,613	83.8	–3.1
2012–13	7,56,984	4,87,664	80.3	–3.5

Source: NCAER computations.

Regarding the distribution of labour inputs across sectors (Table 1.11), the share of industries in total labour inputs increased impressively between 2004–05 and 2011–12, from 28.1 to 64.7 per cent. Thus, the industry sector has also been the major employer in the UT in recent years. Further, Daman and Diu is characterised by high labour productivity in the industrial sector with 64.7 per cent of the labour force devoted to producing 83.8 per cent of the GSDP.

On average, the manufacturing sector comprises 97.6 per cent of the industrial sector. The growth rate of manufacturing has fallen from 30.1 per cent in 2009–10 to 4.5 per cent in 2010–11 and since then it has been in recession. This has driven down the growth of the industrial sector. Within the manufacturing sector, registered manufacturing dominates.

Construction and electricity, gas &water supply account for 1.5 and 0.9 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 1.7 to 1.10 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, it has been in recession in 2011–12 and 2012–13. Unregistered manufacturing, although forming an insignificant share of the manufacturing sector, has seen high relatively higher growth than registered manufacturing.

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

Year	*Manufacturing*	*Registered Manufacturing*	*Unregistered Manufacturing*
Share of GSDP (2004–05 prices, %)			
2008–09	82.8	82.7	0.15
2009–10	84.9	84.8	0.13
2010–11	84.2	84.1	0.13
2011–12	81.6	81.4	0.14
2012–13	77.7	77.6	0.15
Share of Industry (2004–05 prices, %)			
2008–09	97.8	97.6	0.0018
2009–10	97.9	97.7	0.0015
2010–11	98.3	98.1	0.0015
2011–12	97.3	97.2	0.0017
2012–13	96.9	96.7	0.0019
Share of Manufacturing (constant 2004–05 prices, %)			
2008–09	100.0	99.8	0.18
2009–10	100.0	99.8	0.15
2010–11	100.0	99.8	0.15
2011–12	100.0	99.8	0.17
2012–13	100.0	99.8	0.19
Growth Rate (constant 2004–05 prices, %)			
2009–10	30.8	30.8	9.1
2010–11	4.5	4.5	6.9
2011–12	–4.1	–4.1	6.3
2012–13	–4.0	–4.1	9.0

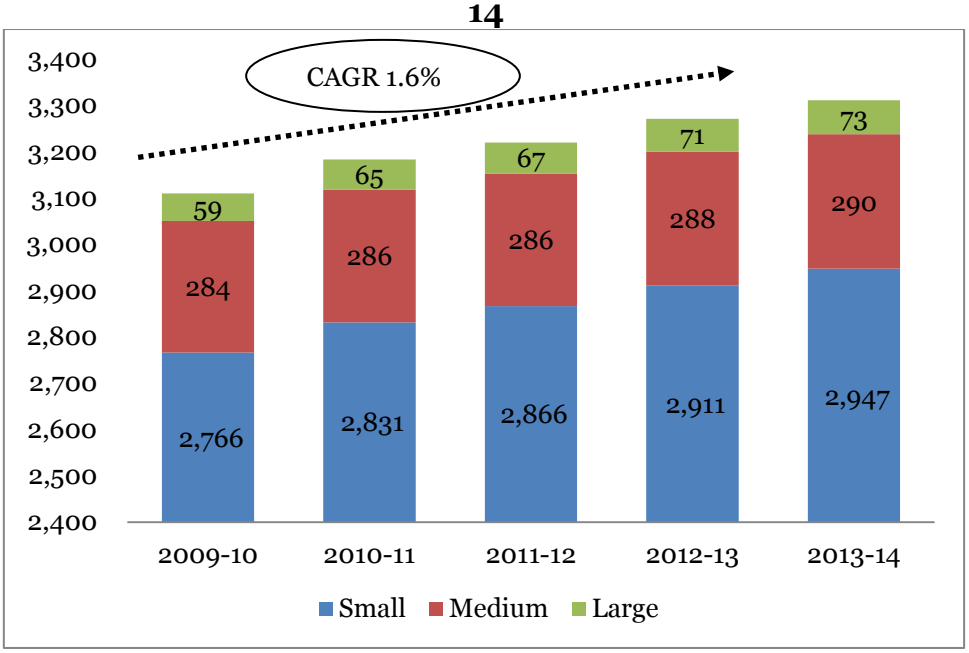
Source: NCAER computations.

There is immense spatial variation between the two districts, with 39 industrial estates in Daman and one in Diu out of a total of 40 industrial estates in the UT (2013–14). The total number of registered enterprises in Daman was 3,292 and in

Diu it was18 in 2013–14[1]. The total capital investment in Daman in the same year was ₹12,145.95 crore versus ₹6.58 crore in Diu. The number of people employed was83,145 in Daman versus 276 in Diu. The numbers from the Annual Survey of Industries for 2009–10 confirm the spatial unevenness of the location of industries. Daman had 1,412 factories in operation and its total GVA was ₹6,305 crore. There were four factories in operation with a GVA of `one crore. In Diu there is the presence of industries only in Beverages (NIC Code 2008 110) and Chemical and chemical products (NIC Codes 200820 and 21).

Figure 3.1 shows the growth of registered enterprises in the UT and their distribution by size. There are a larger number of small enterprises in the UT, but they show a smaller Compound Annual Growth Rate (CAGR) of 1.6 per cent between 2009–10 and 2013–14. Medium enterprises show a CAGR of 0.5 per cent and large enterprises 5.5 per cent.

Figure 3.1: Number of Registered Enterprises by Size, 2009–10 to 2013–14



Note: Definition of Enterprise:
Small: Fixed investment above `0.25 crore and up to `5.0 crore.
Medium: Fixed investment above `5.0 crore and up to `10.0 crore.
Large: Fixed investment above `10.0 crore.
Source: District Industries Centre, Daman via Department of Planning and Statistics, U.T. Administration of Daman and Diu, Secretariat Daman. 2014. Statistical Diary 2013–14. August.

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

3.2.1 Registered Manufacturing Sector

3.2.1.1 Definition

[1]The data in this paragraph has been sourced from the following unless mentioned otherwise: District Industries Centre, Daman via Department of Planning and Statistics, U.T. Administration of Daman and Diu, Secretariat Daman. 2014. Statistical Diary 2013–14. August.

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 the 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 revealed by Table 3.2, the registered manufacturing sector accounts for almost all (99.8 per cent) of the manufacturing sector, with unorganised manufacturing having hardly any presence.

3.2.1.2 Volatile Growth of Registered Manufacturing

The average growth rate of GVA of registered manufacturing of Daman and Diu and India were 9 and 10 per cent, respectively, for the period 2005–06 to 2012–13. The standard deviations were 29.6 and 6.8 for Daman and & Diu and India, respectively, for the same period. The coefficient of variation (CV, an indicator of volatility) for India (1.0) is substantially lower than Daman and Diu (11.8) (for the period 2008–09 to 2012–13). The corresponding numbers for the longer period of 2005–06 to 2012–13 for India and Daman and Diu are 0.7 and 3.1, respectively. Interestingly, while the GSDP of Daman and Diu is only 0.12 per cent of the Indian GDP (on average for the period 2008–09 to 2012–13), the registered manufacturing Gross Value Added (GVA) of Daman and Diu is 0.81 per cent of the Indian GVA in this sector. The share has been steadily declining, from 1.3 per cent in 2005–06 to 0.7 per cent in 2012–13.

Why has the growth of registered manufacturing been so volatile in the UT? Part of the reason is the overall macroeconomic volatility that India has witnessed since the Great Recession of 2008–09. The second reason is industrial composition.

Indian Macroeconomic Volatility

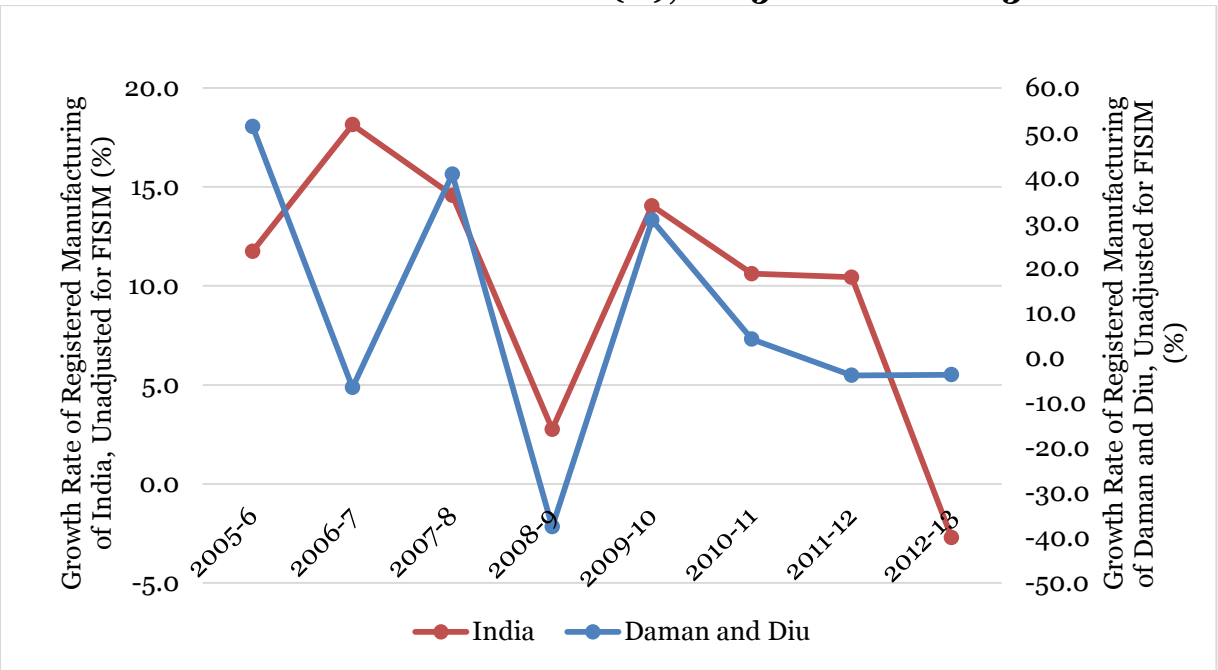
We know from Indian economic history that the period between 2004–05 and 2007–08 was characterised by very high economic growth with GDP growth above 9 per cent for three consecutive years[2]. The year 2008–09 was the year of the Lehman crisis when world economic growth and trade collapsed. India saw a sharp recovery in 2009–10. After growing strongly for two years with GDP growth rate above eight per cent, India has significantly slowed down.

For Daman and Diu, we do not have growth rates prior to 2009–10 because the NCAER has calculated the GSDP only from 2008–09. However, since we know that registered manufacturing is closely linked with the overall growth of the UT, we can track the growth of registered manufacturing of the UT (Figure 3.2). In 2008–09, the growth rate of registered manufacturing in Daman and Diu shows a sharp fall and turned negative. India mirrored this trend but its growth rate did not reach negative. Both regions show sharp recovery in 2009–10. Since then, Daman and Diu has shown steadily falling growth and has been in recession in 2011–12 and 2012–13. India shows a sharp decline in 2012–13 too with the growth rate being negative. Figure 3.2 shows the growth rate of unadjusted registered manufacturing for the UT from the Annual Survey of Industries (ASI), the source of all registered

[2] The source of all Indian data is the Central Statistical Organisation.

manufacturing data in India and its states[3]. There is little correlation between the growth rates of registered manufacturing of India and Daman and Diu. The correlation between the growth rates of India and Daman and Diu is 0.62 for the period between 2008–09 and 2012–13 and falls even further for the extended period 2005–06 and 2012–13 (0.48).

Figure 3.2: Growth Rates of Unadjusted GVA Registered Manufacturing of India and Daman &Diu (%), 2005–06 to 2012–13



Note: The growth rates of Daman and Diu may differ slightly from the ones presented in Table 1.10 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.

Essentially this shows that overall macroeconomic volatility is part of the answer for the volatility of the growth rate of registered manufacturing of the UT but not the whole answer.

Industrial Composition of Registered Manufacturing in Daman and Diu

Second 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 81.8 per cent of the total registered manufacturing in the UT. There are ten NIC 3-digit code industries in this. The average CV of these ten industries are 7.6. Two particular industries have a very high coefficient of variation for the period of our study. Manufacture of plastic products (16.9% average share) has a CV of 10.2. The sector of other manufacturing products (4.3% average share) has a CV of 67.7[4].

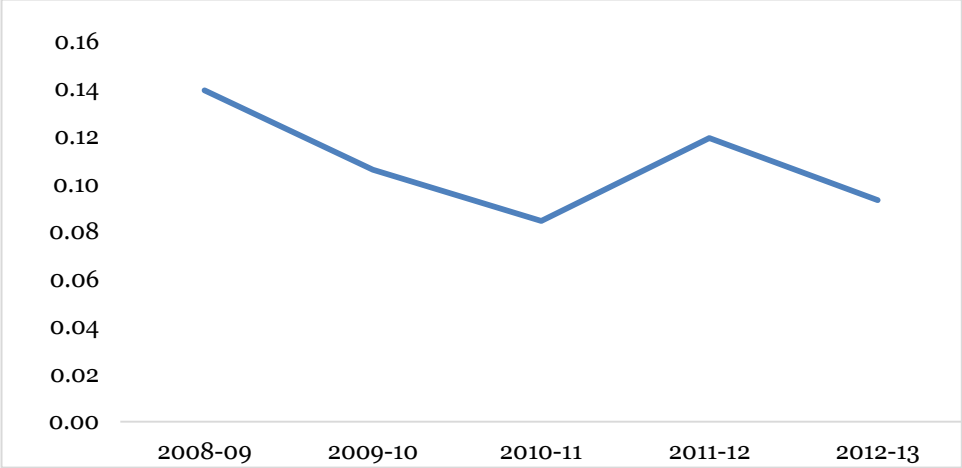
[3] Unadjusted means that FISIM (financial services indirectly measured) has not been deducted. FISIM is less than one per cent for both Daman & Diu and India.
[4] Other manufacturing includes manufacture of stationary articles such as pens and pencils of all kinds whether or not mechanical, pencil leads, date, sealing or numbering stamps, hand-operated devices for printing or embossing labels, hand printing sets, prepared typewriter ribbons and inked pads, globes etc.; manufacture of protective safety equipment (fire-resistant and protective safety clothing, linemen's safety belts and other belts for occupational use, cork life preservers, plastics hard

Volatility of registered manufacturing is more explained by the nature of industries in the UT than otherwise. A unit level study of these ten industries in the UT might help explain more in details as to the nature of growth process of these industries.

3.2.1.3 Analysis based on 3-digit NIC code

There were 42 different kinds of industries in registered manufacturing in Daman and Diu, with 1,885 factories in 2012–13[5]. Of that 1,303 factories (69.1 per cent) were in operation. The Herfindahl-Hirschman Index (HHI) (Figure 3.3) has declined from 2008–09 to 2012–13, indicating diversification of industries.

Figure 3.3: 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 percent 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, it is essentially ten industries which form 81.8 per cent of the total unadjusted registered manufacturing sector in the UT. Their GVAs are shown in Table 3.3. While the traditional importance on textiles (spinning, weaving and finishing of textiles, manufacture of wearing apparel, except fur apparel and manufacture of man-made fibres, together comprise an average share of 11.4%) has continued in Daman and Diu from historical times, it is the

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hats and other personal safety equipment of plastic, fire-fighting protection suits, metal safety headgear and other metal personal safety devices, gas masks etc.); manufacture of umbrellas, sun-umbrellas, walking sticks, seat-sticks; manufacture of articles of personal use such as cigarette lighters, smoking pipes, combs, hair slides, scent sprays, vacuum flasks and other vacuum vessels for personal or household use, wigs, false beards, eyebrows etc. and; manufacture of other articles n.e.c. Central Statistical Organisation, Ministry of Statistics and Programme Implementation, Government of India. 2009. National Industrial Classification 2008. http://mospi.nic.in/Mospi_New/upload/nic_2008_17apr09.pdf. April 17.

[5]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.

manufacturing of more modern products like electronics, pharmaceuticals and plastics that are more significant now.

Table 3.3: Top Ten Industries (in terms of Share of Registered GVA) in Daman and Diu, 2008–09 to 2012–13

S.No.	Industry Name	NIC Code	Average Share of Industry in Registered Manufacturing between 2008–09 and 2012–13	GVA Growth constant 2004–05 prices (%)between 2008–09 and 2012–13			
				Average	Standard Deviation	Coefficient of Variation	Average Labour Productivity@
1.	Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus	271	17.9	–21.3	54.3	2.5	364.9
2.	Manufacture of plastic products	222	16.9	2.8	28.6	10.2	111.1
3.	Manufacture of pharmaceuticals, medicinal chemicals and botanical products*	210	13.7	31.3	49.9	1.6	285.8
4.	Manufacture of wiring and wiring devices	273	8.3	55.3	92.4	1.7	335.8
5.	Manufacture of other chemical products	202	5.3	–13.9	41.6	3.0	175.7
6.	Other manufacturing n.e.c.*	329	4.3	0.5	32.6	67.7	97.5
7.	Spinning, weaving and finishing of textiles	131	4.1	43.5	90.1	2.1	182.5
8.	Manufacture of wearing apparel, except fur apparel	141	4.1	49.3	113.5	2.3	102.4
9.	Manufacture of paper and paper products	170	4.0	29.1	57.3	2.0	175.7
10.	Manufacture of basic precious and other non-ferrous metals	242	3.2	65.2	137.2	2.1	217.5

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 Daman and Diu has a comparative advantage within India. We look at comparative advantage in three ways. Further, we analyse the top ten 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 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 3.4) would suggest that Daman and Diu has a comparative advantage in all industries except spinning, weaving and finishing of textiles, i.e., the computed number is less than one for this industry.
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 Daman and Diu/GVA per labour employed in all manufacturing in Daman and Diu)/(GVA per labour employed in one manufacturing group in India/GVA per labour employed in all manufacturing in India). The results in Table 3.4 show that Daman and Diu has a comparative advantage in manufacture of electric motors, generators, transformers and electricity distribution and control apparatus; manufacture of wiring and wiring devices; manufacture of wearing apparel, except fur apparel and; manufacture of paper and paper products. The computed values are greater than one for these industries.
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 comparative advantage (Table 3.4).

Table 3.4: Comparative Advantage of Top Ten (in terms of Share of Registered GVA) Industries in Daman & Diu, 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.	Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus	271	11.7	2.8	2.7
2.	Manufacture of plastic products	222	9.4	0.9	0.9
3.	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	210	2.0	0.9	1.0
4.	Manufacture of wiring and wiring devices	273	11.2	1.4	1.4
5.	Manufacture of other chemical products	202	1.2	1.0	1.0
6.	Other manufacturing n.e.c.	329	17.5	0.8	0.8
7.	Spinning, weaving and finishing of textiles	131	0.6	1.0	1.1
8.	Manufacture of wearing apparel, except fur apparel	141	3.6	2.2	2.0
9.	Manufacture of paper and paper products	170	2.3	1.2	1.3
10.	Manufacture of basic precious and other non-ferrous metals	242	1.2	0.7	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.

Therefore, manufacture of electric motors, generators, transformers and electricity distribution and control apparatus; manufacture of wiring and wiring devices; spinning, weaving and finishing of textiles; manufacture of wearing

apparel, except fur apparel and; manufacture of paper and paper products are the industries where the UT shows current comparative advantage. With the exception of manufacture of wearing apparel (except fur apparel), labour productivity has fallen over time for all the sectors (Table 3.5). The share of (GVA) manufacture of electric motors, generators, transformers and electricity distribution and control apparatus and labour productivity shows a decline over time (Table 3.6). As discussed before, manufacture of wiring and wiring devices shows high fluctuations too. Manufacture of paper and paper products also shows declining labour productivity, but here other parameters of high growth and low volatility hold.

Table 3.5: Labour Productivity of Total Registered Manufacturing of Top Ten Industries in Daman & Diu, 2008–09 to 2012–13 (constant prices 2004–05 prices)

S.No.	*Industry*	*NIC Code*	*2008–09*	*2009–10*	*2010–11*	*2011–12*	*2012–13*
1.	Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus	271	229.0	104.8	389.7	78.2	229.0
2.	Manufacture of plastic products	222	84.5	46.3	125.7	112.5	84.5
3.	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	210	216.3	159.5	175.4	149.7	216.3
4.	Manufacture of wiring and wiring devices	273	260.0	162.6	466.5	365.0	260.0
5.	Manufacture of other chemical products	202	265.3	397.0	296.3	295.4	265.3
6.	Other manufacturing n.e.c.	329	111.6	133.8	89.8	123.7	111.6
7.	Spinning, weaving and finishing of textiles	131	90.9	196.6	156.8	233.8	90.9
8.	Manufacture of wearing apparel, except fur apparel	141	411.5	262.7	285.0	651.6	411.5
9.	Manufacture of paper and paper products	170	280.2	366.1	575.2	250.1	280.2
10.	Manufacture of basic precious and other non-ferrous metals	242	98.7	100.5	139.2	85.4	98.7

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

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.

Table 3.6: Percentage Share of GVA of Total Registered Manufacturing of Top Ten Industries in Daman & Diu, 2008–09 to 2012–13 (constant prices 2004–05 prices)

S.No.	*Industry*	*NIC Code*	*2008–09*	*2009–10*	*2010–11*	*2011–12*	*2012–13*
1.	Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus	271	3.9	2.9	6.6	2.1	5.1
2.	Manufacture of plastic products	222	3.1	1.5	5.0	4.9	5.8
3.	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	210	5.0	3.4	4.6	2.7	4.4
4.	Manufacture of wiring and wiring devices	273	5.6	5.0	6.4	6.1	3.3
5.	Manufacture of other chemical products	202	10.0	15.1	11.6	13.0	19.0
6.	Other manufacturing n.e.c.	329	16.8	19.1	15.5	18.1	14.9
7.	Spinning, weaving and finishing of textiles	131	1.2	1.5	2.0	2.2	9.1
8.	Manufacture of wearing apparel, except fur apparel	141	29.2	15.3	13.5	23.2	8.2
9.	Manufacture of paper and paper products	170	5.7	11.3	10.0	6.8	7.7
10.	Manufacture of basic precious and other non-ferrous metals	242	4.9	3.7	5.3	4.2	3.5

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.

Along with the above sectors, some sectors based on Tables 3.3 and 3.4 where Daman and Diu can develop further comparative advantage are manufacture of pharmaceuticals, medicinal chemicals and botanical products and manufacture of basic precious and other non-ferrous metals. The latter even shows increasing labour productivity over time. Both sectors exhibit relatively high growth and low volatility. Essentially, the UT needs to develop industries that sets UT on the path of sustainable growth.

3.2.2 Unregistered Manufacturing Sector

The unregistered manufacturing sector is complementary to the registered manufacturing sector, and thus 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 Daman & Diu forms, on average, barely 0.2 per cent of manufacturing GVA. On average, unregistered manufacturing has grown by 7.8 per between 2009–10 and 2012–13. It showed 9per cent growth in 2009–10 and 2012–13, but slower growth in the intervening years (Table 3.2). Compared to registered manufacturing, it shows more robust growth, but overall it has also been affected by the general slowdown in the UT. Unregistered manufacturing sector units are concentrated in four manufacturing groups (2010–11)[6] that together comprise 72 per cent of total unregistered manufacturing. The four industries and their individual share in unregistered manufacturing are: recycling of metal waste and scrap plus non-metal scrap (41%); manufacturing of fabricated metal products, machinery & equipment n.e.c. (14.9%); manufacturing of furniture (8.6%); and production, processing and preservation of meat, fish, fruits, vegetable oils & fats (6.2%). Surprisingly there is no presence of fish processing in the UT, either in registered manufacturing (ASI) or in unregistered manufacturing (NSSO).

The sector of production, processing and preservation of meat fish, fruits, vegetable oils & fats is important in the UT's context given the importance of marine fishing there (Chapter 2). It is important to encourage this sector and bring it into registered manufacturing. Processing, branding and marketing will bring benefits to both the fishing and agriculture sectors.

3.3 Construction

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.

[6]The data are from the Enterprise Survey of the NSSO for the year 2010–11.

The construction sector accounts for 1.5 per cent of industry GVA in Daman & Diu (on average) and 1.2 per cent of overall GSDP (Table 3.7). The average growth rate has been 15.8 per cent during the period of our study but as is evident from the table below, the growth rate shows significant volatility.

Table 3.7: Distribution of Construction GVA under Various Heads in Daman & Diu, 2008–09 to 2012–13

S.No.	Item	*2008–09*	*2009–10*	*2010–11*	*2011–12*	*2012–13*
A.	Share of Construction in GSDP*	1.3	1.2	0.9	1.3	1.5
B.	Share of Construction in Industry*	1.5	1.4	1.0	1.6	1.9
C.	Growth Rate of Construction*	N.A.	22.9	-23.6	47.6	16.4
	Percentage Share in Construction (%)@					
1.	Public Sector	95.5	78.7	82.8	92.7	93.3
1.1	Central Government bodies (% share in public sector)	67.9	68.1	51.6	47.9	45.7
1.2	UT Government bodies (% share in public sector)	31.8	31.9	48.4	52.1	54.3
1.3	Supra-regional Sector (% share in public sector)	0.3	0.1	0.0	0.0	0.0
2.	Household Sector	4.5	4.1	13.6	6.3	5.6
2.1	Rural Residential buildings (% share in household sector)	17.9	18.2	7.5	8.8	8.4
2.2	Urban Residential buildings (% share in household sector)	80.6	80.2	33.0	36.9	34.5
3.	Residuals	0.0	17.2	3.6	1.1	1.1

Notes: * Using constant 2004–05 prices.
@Using current prices.
Source: National Accounts Division.

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 which include both Departmental Commercial Undertakings (DCUs) and Non-Departmental Commercial Undertakings (NDCUs)[7]. Within the household sector, the urban residential buildings sector contributes the most.

3.4 Electricity, Gas and Water Supply

The economic activities relating to generation, transmission and distribution of electric energy are covered under the electricity sub-sector; the manufacture of gas in

[7]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).

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 systems are covered under the water supply sub-sector. There is no gas production or distribution in the UT.

On average (2008–09 to 2012–13), the sector forms 0.8 per cent of the GSDP and 0.9 per cent of overall industry (Table 3.8). Its share in both GSDP and industry has shown consistent increase during the period of our study. The average growth rate during this period has been 22.8 per cent. Although positive during all the four years from 2009–10 to 2012–13, the growth rate varies a lot. To understand what is driving this volatility, we look at the sub-sectors of electricity and water supply.

Table 3.8: Distribution of Electricity, Gas, Water Supply across Sub-Sectors in Daman & Diu, 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)*	0.6	0.6	0.6	0.9	1.0
2.	Electricity, Gas, Water Supply GVA (% of Industry GVA)*	0.7	0.7	0.7	1.1	1.3
3.	Growth Rate of Electricity, Gas, Water Supply GVA	N.A.	25.4	1.1	54.1	10.6
4.	Electricity GVA ₹lakh(constant 2004–05 prices)	2,652	3,381	3,416	5,205	5,641
5.	Growth Rate of Electricity GVA*	N.A.	27.5	1.0	52.3	8.4
6.	Water Supply GVA ₹lakh(constant 2004–05 prices)	193	186	189	350	502
7.	Growth Rate of Water Supply GVA*	N.A.	–3.7	1.3	85.3	43.5
	Share of (%age)@					
8.	Electricity GVA (% of electricity, gas and water supply GVA)	98.4	98.6	98.6	99.1	99.1
A.	NDCU GVA (% of electricity GVA)	81.9	81.1	73.0	89.5	89.5
B.	Centre GVA (% of electricity GVA)	18.1	18.9	27.0	10.5	10.5
9.	Water Supply GVA (% of electricity, gas, water supply GVA)	1.6	1.4	1.4	0.9	0.9
A.	Private GVA (% of water supply GVA)	32.6	31.0	30.0	32.8	28.2
B.	Public GVA (% of water supply GVA)	67.4	69.0	70.0	67.2	71.8

Notes: * Using constant 2004–05 prices.
@Using current prices.
Source: National Accounts Division.

3.4.1 Electricity

The electricity sub-sector shows high but volatile growth rates. And it accounts for around 99 per cent of the GVA of the entire sector of electricity, gas and water supply (Table 3.6). Within the electricity sub-sector, NDCUs account for the larger share of GVA with Centre being a minor contributor. There is no private sector contribution to electricity.

Census 2011–12 shows that 99.1 per cent of households use electricity as their main source of lighting (Chapter 1). Also, 100 per cent of villages in the UT are electrified[8] and all schools have electricity (Chapter 1).

The focus of the Electricity Department of the UT is transmission and distribution. The nature of public investments in infrastructure is lumpy—such facilities have to be built complete for a particular size[9]. This probably explains the volatile nature of electricity growth in the UT.

3.4.2 Water Supply

Water supply contributes to around one per cent of sectoral GVA with the public sector contributing about 70 per cent. It also exhibits volatile growth (Table 3.6), again probably because of the nature of the good. Census 2011 reports that 54.6 per cent of households use treated tap water for drinking purposes and there is a large difference in rural (76.5%) versus urban areas (46.7%) and Daman (45.3%) versus Diu (97.8%). Only 5.3 per cent of households in the UT have piped sewer systems.

3.5 The Way Forward

While the industrial sector is the largest in the UT, it is characterised by volatile growth. They key focus should be to develop sustainable growth engines. Investment in infrastructure is needed even further and will be characterised by lumpy investments. Therefore, volatility in those GVAs is going to continue. Construction is driven by the public sector. Private construction is linked more to the growth cycle of the economy. As the economy becomes weaker, construction in the private sector may weaken.

The main strengths of the UT are in the industrial sector, especially registered manufacturing. Therefore, the UT needs to develop comparative advantages in key industries that can give it sustained growth over time. Two sectors that exhibit high growth but low volatility are manufacture of pharmaceuticals, medicinal chemicals and botanical products and manufacture of basic precious and other non-ferrous metals. Comparative advantage can be developed in these industries. Also, it is important to link the agro sector with the industrial sector for the benefit of both sectors.

[8]Department of Planning and Statistics, U.T. Administration of Daman and Diu, Secretariat Daman. 2014. Statistical Diary 2013–14. August.
[9]MoSPI website. http://mospi.nic.in/Mospi_New/upload/is_8.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 18.5 per cent in the UT versus 58.8 per cent for India. The share of the services sector, after falling from 13.4 per cent in 2008–09 to 11.9 per cent in 2009–10, has shown steady increase (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 16.8 per cent. The coefficient of variation is 0.3, which is fairly low and indicates low volatility. Therefore, this sector shows double-digit, robust, positive growth.

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

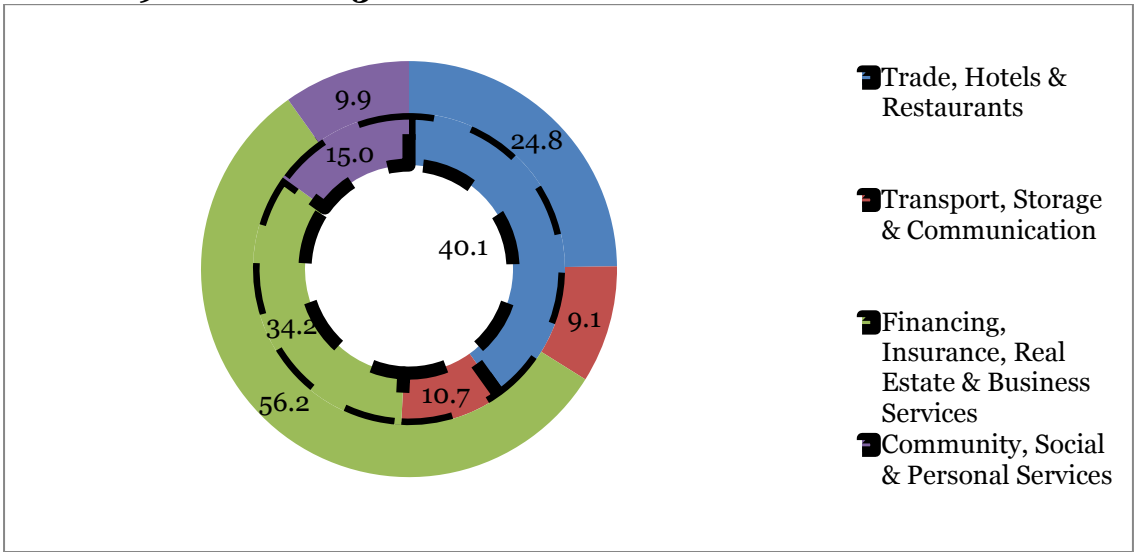
Year	*Current GVA (₹lakh)*	*Constant GVA at 2004–05 prices (₹lakh)*	*Share of Services as a percentage of GSDP*	*Growth Rate of Constant Services GVA*
2008–09	72,903	60,644	13.4	
2009–10	92,414	69,026	11.9	13.8
2010–11	1,14,908	80,190	13.2	16.2
2011–12	1,41,897	90,939	15.1	13.4
2012–13	1,95,631	1,12,613	18.5	23.8

Source: NCAER computations.

Regarding the distribution of labour inputs across sectors (Table 1.11), the share of services in total labour inputs decreased considerably between 2004–05 and 2011–12, from 38.5 to 25.5 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.

The composition of the services sector has also changed within the five years of our study. Trade, hotel & restaurants from being the dominant sector in 2008–09 with a share of 40 per cent in services sector GVA, has gone down to 24.8 per cent in 2012–13 (Figure 4.1). The shares of transport, storage &communications and community, social & personal services have gone down too. The sector that has seen a steady rise in share is financing, insurance, real estate & business services. It has gone up from 34.2 per cent in 2008–09 to 56.2 per cent in 2012–13 and has seen double-digit, robust, positive growth through the years. The rest of the chapter discusses the four sub-sectors in detail.

Figure 4.1: Composition of the Services Sector (% of the services GVA), 2008–09 and 2012–13



Note: Inner circle represents 2008–09 and outer circle represents 2012–13.
Source: NCAER computations.

4.2: Trade, Hotel & Restaurants

There are two sub-sectors within this sector – trade and hotels &restaurants. The trade sector includes wholesale and retail trade in all commodities whether produced domestically, imported or exported. It covers the 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. This sector, now, also comprises 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.

The average share of trade, hotels &restaurants for the period of our study has been 4.5 per cent of GSDP. As a percentage share of services, it has shown a steady fall, from 40.1 per cent in 2008–09 to 24.8 per cent in 2012–13. This is because both trade and hotels &restaurants show a declining share in the services sector. Further, there is no consistent growth trend because it keeps fluctuating.

Between trade and hotels &restaurants, trade is the larger sector, forming 83.8 per cent (on average) of the overall sector. Hotels &restaurants form, on average, 16.8 per cent of the total sector. Except during 2012–13, the share of trade has come down steadily and that of hotels &restaurants has increased. In 2012–13, we see a minor reversal.

Table 4.2: Trade, Hotel & Restaurants in Daman & Diu, 2008–09 to 2012–13

Year	*Trade, Hotels and Restaurants*	*Trade*	*Hotels and Restaurants*
Share of GSDP (2004–05 prices, %)			
2008–09	5.4	4.5	0.8
2009–10	4.1	3.5	0.6
2010–11	4.2	3.6	0.7
2011–12	4.2	3.5	0.7
2012–13	4.6	3.8	0.8
Share of Services (2004–05 prices, %)			
2008–09	40.1	33.9	6.2
2009–10	34.5	29.2	5.3
2010–11	32.0	27.0	5.0
2011–12	28.0	23.1	4.9
2012–13	24.8	20.6	4.2
Share of Trade, Hotels &Restaurants (constant 2004–05 prices, %)			
2008–09	100.0	84.6	15.4
2009–10	100.0	84.5	15.5
2010–11	100.0	84.3	15.7
2011–12	100.0	82.7	17.3
2012–13	100.0	83.1	16.9
Growth Rate (constant 2004–05 prices, %)			
2009–10	–2.0	–2.2	–1.4
2010–11	7.8	7.5	9.6
2011–12	–0.9	–2.7	9.2
2012–13	9.6	10.2	6.7

Source: NCAER computations from NAD, NSSO.

4.2.1 Trade

Trade forms, on average, 3.8 per cent of the UT's GSDP. On average, it forms 35.2 per cent of the services sector. There are no definite trends in any of these metrics. As mentioned before, trade is the larger sector in trade, hotels &restaurants. Its growth rate shows significant fluctuations and again there is no definite trend.

4.2.2 Hotels & Restaurants

Hotels & restaurants form, on average, 0.7 per cent of the UT's GSDP. On average, it forms 5.1 per cent of the services sector and its share has steadily fallen since 2008–09. Out of four years of available data, there is positive growth in three. In 2010–11 and 2011–12, the sector grew above 9per cent. In 2012–13, we see a marginal slowing down.

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

Total tourist arrival has gone up in the UT at a CAGR of 11.9 per cent between 2008 and 2013[1]. The share of domestic tourist arrivals in those two years was 98.9 and 99.4 per cent, respectively. Domestic tourist arrivals have gone up at a CAGR of 12 per cent and foreign tourist arrivals have gone down by –1.8 per cent. In 2013, the UT got 0.07 percent of total domestic tourists in India and 0.02 per cent of foreign tourists. Daman and Diu ranked 25thout of 35 states and UTs in 2013 in domestic tourist arrivals and 29thin foreign tourist arrivals. The corresponding ranks in 2008 were 24 and 26, respectively. Data from 2008 shows the presence of three 3-star hotels in Diu with 140 rooms. In 2013, there is one one-star hotel with 60 rooms in Daman[2].

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-mechanised), water transport (coastal, ocean and inland), air transport and services incidental to transport, (iii) storage, and (iv) communications services rendered by the Post & Telecommunication 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 1.5 per cent of the GSDP of the UT (Table 4.3). The share has gone up steadily, from 1.4 per cent in 2010–11 to 1.7 per cent in 2012–13.The share of this sector in services has gone down, primarily driven by the decline in percentage share of communications. The percentage share of transport and storage in services however has remained constant during the period of our study. The average growth of this sector has been 12.2 per cent. Growth, after peaking in 2010–11, has slid downwards. Its largest sub-sector is communications (average share 64.9%), followed by transport (average share 34.2%) and then by storage (average share 0.9%).

4.3.1 Communications

Communications is the dominant sub-sector in this sector. On average, its share has been 64.9 per cent. After peaking in 2010–11 at 66.1 per cent, its share has gone steadily downwards. Average growth is 11 per cent. Growth, after peaking in 2010–11, has slid downwards. 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 because 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.

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

[2] The Statistical Diary of the UT gives numbers that are starkly different from the Indian Tourism Statistics 2013. Since the former does not refer to the year from which the data are used, it is difficult to use it to analyse trends and therefore make inferences from the data.

Overall, the slowdown in communications is understandable. Census 2011 shows that 76 per cent of households have a mobile phone in the UT[3]. There is a gap between Daman and Diu—70.6 per cent of households have a mobile in Daman versus 59 per cent in Diu. As the UT achieves 100per cent connectivity, growth in this sector should slow down. However, achievements in Internet connectivity remain low as per Census 2011 (Chapter 1). One may infer that growth is yet to happen.

Table 4.3: Transport, Storage and Communications in Daman & Diu, 2008–09 to 2012–13

Year	*Transport, Storage &Communications*	*Transport*	*Storage*	*Communications*
Share of GSDP (2004–05 prices, %)				
2008–09	1.4	0.5	0.013	0.9
2009–10	1.2	0.4	0.012	0.8
2010–11	1.4	0.5	0.013	0.9
2011–12	1.6	0.5	0.014	1.0
2012–13	1.7	0.6	0.016	1.0
Share of Services (2004–05 prices, %)				
2008–09	10.7	3.6	0.1	7.0
2009–10	10.3	3.4	0.1	6.8
2010–11	10.6	3.5	0.1	7.0
2011–12	10.3	3.5	0.1	6.7
2012–13	9.1	3.4	0.1	5.7
Share of Transport, Storage and Communications (constant 2004–05 prices, %)				
2008–09	100.0	34.0	0.9	65.1
2009–10	100.0	33.0	1.0	66.0
2010–11	100.0	32.9	1.0	66.1
2011–12	100.0	34.1	0.9	65.0
2012–13	100.0	36.9	0.9	62.2
Growth Rate (constant 2004–05 prices, %)				
2009–10	9.6	6.5	11.4	11.2
2010–11	19.4	18.9	20.4	19.6
2011–12	10.8	14.9	3.2	9.0
2012–13	9.1	18.0	15.0	4.4

Source: NCAER computations from NAD and NSSO.

4.3.2 Transport

The share of the transport sector, on average, is 34.2 per cent. It has shown a steady increase from 32.1 per cent in 2010–11 to 36.9 per cent in 2012–13. Its average growth rate is 14.6 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.

[3] 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.

The transport sector can be divided into land, water and air transport, which is given in Table 4.4. In 2008–09, all three forms of transport contributed equally to transport GVA. Since then, the transport sector has grown rapidly compared to the two other forms of transportation, and as a result its share in GVA rose from 34 per cent in 2008–09 to 57.2 per cent in 2012–13 at current prices. Similar growth is seen at constant prices also. Minimum growth in GVA is seen in the case of water transport and that is why its share in GVA fell sharply, from 32 to 17.1 per cent between 2008–09 and 2012–13. Given that the two districts of Daman and Diu are separated by the sea and the three rivers in Daman, there is huge potential for water transport in the UT that needs to be explored. The share of air transport in total transport fell from 34 to 25.7 per cent between 2008–09 and 2012–13 at current prices and from 34.9 to 28.2 per cent at constant prices. Overall, these numbers match the transport infrastructure statistics presented in the first chapter where it is evident that land transport has become the most dominant mode of transport in the UT.

Table 4.4: Transport Sector in Daman & Diu, 2008–09 to 2012–13

Year	*Gross Value Added (in ₹lakh)*				*Share of (%age)*			*Growth rate(%age)*			
	T	*LT*	*WT*	*AT*	*LT*	*WT*	*AT*	*T*	*LT*	*WT*	*AT*
At Current Price											
2008–09	2,740	932	877	931	34.0	32.0	34.0				
2009–10	3,226	1,288	921	1,017	39.9	28.6	31.5	17.7	38.1	5.0	9.2
2010–11	4,152	1,831	984	1,337	44.1	23.7	32.2	28.7	42.2	6.8	31.5
2011–12	5,197	2,656	1,065	1,476	51.1	20.5	28.4	25.2	45.0	8.2	10.4
2012–13	6,814	3,900	1,164	1,750	57.2	17.1	25.7	31.1	46.8	9.3	18.6
At Constant Price											
2008–09	2,203	736	698	769	33.4	31.7	34.9				
2009–10	2,347	899	649	799	38.3	27.7	34.0	6.5	22.2	–7.0	3.8
2010–11	2,792	1,191	644	957	42.6	23.1	34.3	18.9	32.4	–0.8	19.8
2011–12	3,207	1,583	637	986	49.4	19.9	30.8	14.9	33.0	–1.1	3.0
2012–13	3,783	2,090	625	1,068	55.2	16.5	28.2	18.0	32.0	–1.9	8.3

Note: T stands for Transport, LT for Land Transport, WT for Water Transport and AT for Air Transport.
Source: NCAER computations from NAD and NSSO.

4.3.3 Storage

The share of storage has averaged around 0.9 per cent of the sector. Its average growth rate is 12.2 per cent. Although positive, the growth tends to fluctuate and there is no definite trend.

4.4 Financing, Insurance, Real Estate & Business Services

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 (RBI), Non- Banking Financial Companies/Corporations, Post Office Saving 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.

Table 4.5: Financing, Insurance, Ownership of Dwellings, Real Estate and Business Services in Daman & Diu, 2008–09 to 2012–13

Year	*Financing, Insurance, Real Estate and Business Services*	*Banking and Insurance*	*Real Estate, Ownership of Dwellings and Business Services*
Share of GSDP (2004–05 prices, %)			
2008–09	4.6	1.6	2.9
2009–10	4.6	1.8	2.9
2010–11	5.9	2.0	3.8
2011–12	7.6	2.1	5.5
2012–13	10.4	2.6	7.9
Share of Services (2004–05 prices, %)			
2008–09	34.2	12.3	21.9
2009–10	38.9	15.0	23.9
2010–11	44.5	15.5	29.0
2011–12	50.4	14.1	36.2
2012–13	56.2	13.8	42.4
Share of Financing, Insurance, Real Estate &Business Services (constant 2004–05 prices, %)			
2008–09	100.0	35.9	64.1
2009–10	100.0	38.6	61.4
2010–11	100.0	34.9	65.1
2011–12	100.0	28.1	71.9
2012–13	100.0	24.5	75.5
Growth Rate (constant 2004–05 prices, %)			
2009–10	29.6	39.3	24.2
2010–11	32.8	20.2	40.6
2011–12	28.3	3.1	41.8
2012–13	38.3	20.9	45.1

Source: NCAER computations from NAD and NSSO.

The share of this sector in the GSDP shows a continuous increase between 2008–09 and 2012–13, driven by the increase in both sub-sectors. In 2012–13, it formed 10.4 per cent of the GSDP (Table 4.5). Within that, it was real estate, ownership of

dwellings and business services that formed 7.9 per cent of the GSDP. Basically, after registered manufacturing, this sector is the most significant sector in the UT. Double-digit growth, although fluctuating, has driven this sector to become more than half of the overall services sector in 2012–13. In 2012–13, real estate, ownership of dwellings and business services formed approximately 75 per cent of this 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 2per cent (Table 4.5). It shows steady increase between 2008–09 and 2012–13. However, as a percentage share of the total services sector, it shows a decline from the peak of 15.5 per cent in 2010–11 to 13.8 per cent in 2012–13. It also shows a decline in the share of financing, insurance, real estate and business services from the peak of 38.6 per cent in 2009–10 to 24.5 per cent in 2012–13. The average rate of growth for the period from 2008–09 to 2012–13 has been 20.9 per cent. In 2011–12, there was brief dip to 3.1 per cent.

4.4.2 Real Estate, Ownership of Dwellings and Business Services

The share of real estate, ownership of dwellings & business services as a percentage of GSDP has gone up from 2.8 per cent in 2008–09 to 7.9 per cent in 2012–13 (Table 4.5). It has experienced double-digit and rising growth. Business services is the dominant sub-sector (which increased from 85 per cent to around 94 per cent between 2008–09 and 2012–13). In contrast, the share of ownership of dwellings in sectoral GVA has declined from 13.8 to 4.3 per cent between 2008–09 and 2012–13 (Table 4.6). The real estate sector has been rising quite fast over the years, yet its share in the sectoral GVA has been less than 2per cent.

Within business services, there are five activities (Table 4.6). The dominant sector is computer-related activities whose share in business services has gone down from 58.3 per cent in 2008–09 to 34.7 per cent in 2012–13. All the other four sectors have experienced a rise in their shares. The second most important component is research and development, whose share has gone up from 15.6 per cent in 2008–09 to 24.8 per cent in 2012–13. All these sectors show very high double-digit growth rates.

There are two points to note from the above analysis. First, the business services sector is an area where the UT can further develop its comparative advantage. These sectors also complement manufacturing. Second, the business services sector typically tends to be a high-skilled sector. There are far too few data points to make any firm conclusion, but the share in employment in overall services has tended to go down with the increase in share of sectors such as business services versus, say, trade or hotels &restaurants. We have seen in Chapter 1 that the higher education sector is attuned to the needs of registered manufacturing. If business services is seen as a sector whose potential can be further encouraged in the state, higher education has to change commensurately. Along with this we might see the desirable outcome of feminisation of the labour force. However, the employment multiplier in the business services sector tends to be limited. Here, it is important to also develop the traditional service sectors for large-scale employment.

Table 4.6: Real Estate, Ownership of Dwellings and Business Services in Daman & Diu, 2008–09 to 2012–13

	Sector	2008–09	2009–10	2010–11	2011–12	2012–13
	At Current Price (₹lakh)					
1.	Real Estate, Ownership of Dwellings & Business Services	17,054	24,361	37,009	56,964	91,788
2.	Real Estate	177	314	556	948	1,656
3.	Ownership of Dwellings	2,360	2,711	3,174	3,600	3,979
4.	Business Services	14,517	21,336	33,279	52,416	86,153
4.1.	Renting of Machinery	1,695	3,003	5,329	9,097	15,910
4.2.	Computer-Related Activities	8,464	10,635	14,336	20,153	29,854
4.3.	Legal Activities	554	988	1,765	3,034	5,343
4.4.	Accounting	1,536	2,686	4,702	7,920	13,668
4.5.	Research and Development	2,268	4,024	7,147	12,212	21,378
	At Constant 2004–05 Price (₹lakh)					
1.	Real Estate, Ownership of Dwellings & Business Services	13,289	16,512	23,221	32,939	47,788
2.	Real Estate	138	213	349	548	862
3.	Ownership of Dwellings	1,839	1,838	1,992	2,082	2,072
4.	Business Services	11,313	14,462	20,881	30,309	44,854
4.1.	Renting of Machinery	1,321	2,035	3,344	5,260	8,283
4.2.	Computer-Related Activities	6,596	7,209	8,995	11,653	15,543
4.3.	Legal Activities	432	670	1,107	1,754	2,782
4.4.	Accounting	1,197	1,821	2,950	4,580	7,116
4.5.	Research and Development	1,767	2,728	4,484	7,061	11,130
Share of Real Estate, Ownership of Dwellings and Business Services (constant 2004–05 prices, %)						
1.	Real Estate	1.0	1.3	1.5	1.7	1.8
2.	Ownership of Dwellings	13.8	11.1	8.6	6.3	4.3
3.	Business Services	85.1	87.6	89.9	92.0	93.9
Share of Business Services (constant 2004–05 prices, %)						
3.1.	Renting of Machinery	11.7	14.1	16.0	17.4	18.5
3.2.	Computer-Related Activities	58.3	49.8	43.1	38.4	34.7
3.3.	Legal Activities	3.8	4.6	5.3	5.8	6.2
3.4.	Accounting	10.6	12.6	14.1	15.1	15.9
3.5.	Research and Development	15.6	18.9	21.5	23.3	24.8
Growth Rate (constant 2004–05 prices, %)						
1.	Real Estate, Ownership of Dwellings & Business Services	N.A.	24.3	40.6	41.8	45.1
2.	Real Estate	N.A.	54.3	63.9	57.1	57.3
3.	Ownership of Dwellings	N.A.	–0.1	8.4	4.5	–0.5
4.	Business Services	N.A.	27.8	44.4	45.2	48.0
4.1.	Renting of Machinery	N.A.	54.1	64.3	57.3	57.5
4.2.	Computer-Related Activities	N.A.	9.3	24.8	29.6	33.4
4.3.	Legal Activities	N.A.	55.1	65.4	58.4	58.6

	Sector	2008–09	2009–10	2010–11	2011–12	2012–13
4.4.	Accounting	N.A.	52.1	62.0	55.2	55.4
4.5.	Research and Development	N.A.	54.3	64.4	57.5	57.6

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 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.

The share of this sector has gone down from 15 per cent in 2008–09 to 9.9 per cent in 2012–13. Public administration used to account for the larger share of community, social & personal services in 2008–09, but its share has declined over time. In 2008–09 it accounted for 61.1 per cent of sectoral GVA, whereas in 2012–13 only 45.1 per cent of GVA came from it. Other services is the dominant sector. Within that, education, which includes Coaching, contributes the maximum. However, its share has been declining (Table 4.7). The share of health services has remained more or less the same and that of sewage and sanitation has been increasing over the years. The latter also has seen the maximum growth and the strongest growth among all the sectors.

4.5 The Way Forward

The analysis above shows that business services is the sector that shows the maximum growth. The UT can try and develop comparative advantage in that sector. Unfortunately, with its relatively low employment multiplier, other sectors cannot be ignored, especially trade and tourism. Within Other services, the stagnating education sector has to be revived because this is critical in developing both skills and educated citizens. Overall, consistent double-digit growth in the services sector has compensated for the volatile and low growth seen in the agriculture and manufacturing sectors. Standard growth theory tells us that an economy transforms from an agricultural to an industrial economy to a service-oriented economy. It is natural that Daman and Diu over the next 15 years or so will transform to a more service-oriented economy and the UT needs to prepare now for this transition.

Table 4.7: Public Administration and Other Services in Daman & Diu, 2008–09 to 2012–13

	Sector	2008–09	2009–10	2010–11	2011–12	2012–13
	At Current Price (₹lakh)					
1.	Community, Social & Personal Services	11,656	16,119	16,307	17,571	20,958
2.	Public Administration	7,126	8,728	7,964	8,582	9,454
3.	Other services	4,530	7,391	8,343	8,989	11,504
3.1.	Education	2,950	5,273	5,425	5,465	6,819
3.2.	Human Health including Veterinary services	281	405	569	591	633
3.3.	Sewage and Sanitation	167	281	458	708	1,140
3.4.	Recreational & Cultural activities	164	211	332	350	450
	At Constant 2004–05 Price (₹lakh)					
1.	Community, Social & Personal Services	9,101	11,211	10,333	10,276	11,107
2.	Public Administration	5,562	6,084	5,049	5,031	5,036
3.	Other services	3,539	5,127	5,284	5,246	6,071
3.1.	Education	2,293	3,654	3,413	3,173	3,595
3.2.	Human Health including Veterinary services	239	319	421	410	410
3.3.	Sewage and Sanitation	130	190	285	409	594
3.4.	Recreational & Cultural activities	130	149	178	209	242
	Share of Public Administration and Other Services (constant 2004–05 prices, %)					
1.	Public Administration	61.1	54.3	48.9	49.0	45.3
2.	Other Services	38.9	45.7	51.1	51.0	54.7
	Share of Other Services (constant 2004–05 prices, %)					
1.	Education	65.1	71.3	65.0	60.8	59.3
2.	Human Health including Veterinary services	6.2	5.5	6.8	6.6	5.5
3.	Sewage and Sanitation	3.7	3.8	5.5	7.9	9.9
4.	Recreational & Cultural activities	3.6	2.9	4.0	3.9	3.9
	Growth Rate (constant 2004–05 prices, %)					
1.	Community, Social & Personal Services	N.A.	23.2	–7.8	–0.5	8.1
2.	Public Administration	N.A.	9.4	–17.0	–0.3	0.1
3.	Other services	N.A.	44.9	3.1	–0.7	15.7
3.1.	Education	N.A.	59.3	–6.6	–7.0	13.3
3.2.	Human Health including Veterinary services	N.A.	33.5	32.1	–2.6	0.1
3.3.	Sewage and Sanitation	N.A.	46.4	49.6	43.7	45.0
3.4.	Recreational & Cultural activities	N.A.	14.1	19.6	17.7	15.6

Source: NCAER computations from NAD and NSSO.

Chapter 5: Strategic Way Forward

5.1 Introduction

The strategic way forward for the UT is to have a dual strategy for the two districts—Daman and Diu. They are geographically apart and very different to each other in terms of economy, demographic structure, urbanisation, etc. The overall objectives for the UT are for long-run, sustainable, inclusive green growth (i.e., not volatile and keeps environmental needs in perspective) that also provides large-scale employment. Further, it is important to think of an integrated strategic framework to develop growth.

Currently, Daman and Diu is basically an industrial economy. However, the majority of the industries are located in Daman. Although Daman is more urbanised, the larger share of the livestock and animal husbandry is also located here. In contrast, Diu is relatively more rural and the marine fishing industry is located here.

5.2 Developing Comparative Advantage

Currently, Daman is dominated by registered manufacturing. While we do not know district-wise GSDP, one can infer that from the available statistics. However, registered manufacturing has been in recession for 2011–12 and 2012–13 and in general we see very volatile growth. Chapters 2, 3 and 4 have analysed some sectors that tend to have relatively high growth and low volatility.

1. Agriculture and Fishing
    a. Organic Farming: While the sector is dominated by small and marginal farmers, the majority of them have dual jobs. Given the urbanised nature of Daman and the tendency to move towards more organic eating habits, it is recommended that farmers been encouraged to move towards organic farming. This can add value to the products. Further, linking the local agro-products to urbanised residents can encourage healthy habits and promote local produce.
    b. Agro-processing: Agro-processing should be encouraged to give a fillip to both the agriculture and industrial sectors.
    c. Fish processing needs to be boosted in Diu especially given the dominance of marine fishing there. Marketing and branding fish produce will add value to the product. Modern ways of packaging like putting fish in tins for urban supermarkets can greatly enhance both sectors.

2. Forestry conservation efforts need to be further encouraged.

3. Industry
    a. Traditional strengths have been identified in Chapter 2in registered manufacturing. However, their growth seems to be very volatile. A shift towards other industries and a more diversified industrial structure may help even further. The textiles sector has historically been the comparative advantage of Daman and Diu and it continues to be so in modern times. Other industries that show resilience in volatile times

are manufacture of wearing apparel, except fur apparel, manufacture of pharmaceuticals, medicinal chemicals and botanical products and manufacture of basic precious and other non-ferrous metals.

b. However, Daman River is much polluted on some metrics. Encouraging industries is important but making sure that they follow modern methods of disposing industrial waste is also important. Recycling and reuse of water should be encouraged.
c. Daman needs to be marketed even further as an industrial hub to attract more industries. Shortage of land should not be a constraint because vertical plants exist around the world.
d. The skills sector needs to be further enhanced. The UT will move from low-skilled to high-skilled jobs and the education sector has to keep pace with that. Further, if we develop a long-run perspective, the education sector can systematically be encouraged to change in that direction. The significantly low female labour participation needs to be changed.

4. Services: This is the strongest engine of growth in the UT.
    a. Business services needs to be encouraged even further and along with that the education sector. This is especially beneficial for feminisation of the labour force.
    b. Tourism sector: This needs to be strengthened even further.
        i. The UT should be marketed as a destination. It can be a place for organising exhibitions and conventions, destination weddings, food journey etc., especially Diu.
        ii. For that, however, infrastructure needs to be strengthened. Ferry services from Daman to Diu are important. Also, luxury cruises can be organised from Daman and Diu for the Gulf of Khambhat or the Arabian Sea. Safe road transport is very important. Even inland water boat rides can add value to the product.
        iii. Water sports may be further encouraged in Daman and Diu.
        iv. The role of Diu in tourism is more important than Daman. Tourism will be the main source of growth. The goal should be to match the ranking of Daman and Diu to Goa. Also, foreign tourists need to be encouraged.
        v. Daman can be encouraged as a day destination for people from Mumbai. They come to Daman to escape the crowds, indulge in water adventure sports and the quiet beaches. Tourists are seeking newer experiences and alternative adventures. Daman's distinctive Portuguese influence needs to be celebrated and offered as an alternative to other destinations. Each district in the UT needs to celebrate its uniqueness in attracting tourists.
    c. Education is important but characterised by weak growth. Education cannot be ignored. Developing skilled labour to match the dynamic and changing comparative advantages is going to be critical for the economy.

5. Infrastructure
    a. Roads and road quality need to be improved.

b. The UT needs to exploit its coastline by developing beaches, waterfront parks, walks and drives along the coastline. Daman and Diu should be better connected at least for the tourists. The historical ports of Daman and Diu can also be marketed as tourist spots.
c. Water quality needs to be maintained. Drinking water and sanitation need to be improved further. 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.

6. Developing detailed statistics for more informed policymaking

- GSDP needs to be calculated from 2004–05 onwards so as to facilitate evidence based policymaking. With five years data and trends being so volatile, it is challenging to remark on long-term growth trends and what direction should the UT change towards more sustainable and inclusive growth. It needs to also continue calculating GSDP on a regular basis.
- Data needs to be available online in readily usable form in excel. Both time series and cross-sectional data are important but for macro analysis the former is especially important. This will facilitate analysis. Further it needs to be made apparent the date of the year for which the data are referred to.
- The ASI covers registered manufacturing. Both data collection and analysis in registered manufacturing may be further strengthened.
- Daman and Diu needs to be fully represented in the various NSSO surveys. This will also mean better data for sectors like unregistered manufacturing, services, etc. 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 and employment figures for more careful analysis. These figures are then used to assess comparative advantage and give indications for future policymaking. Faulty numbers can give faulty inferences.
- Regular research work on the UT needs to be facilitated to understand the dynamics of growth of the UT.

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

5.3 Conclusion

Daman and Diu is in a relatively enviable position. Its per capita GSDP is five times that of India. Its economic structure can be the envy of India as a whole. However, the UT has experienced low and volatile growth of late. Developing other industries and increasing its share of services over time can potentially mitigate this volatility. Along with this, the UT needs to work on improving infrastructure and improving water quality. Education goes hand-in-hand with industrial development and that needs to be strengthened further.

Annex 1: Methodology for Compiling State Domestic Product of Daman and Diu

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 the data availability at 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 Daman and Diu 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.

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 Daman and Diu 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 Daman and Diu 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 silkworm cocoons etc.

Operation of irrigation system comprises of supply of water through various government channels to the agricultural producers. Daman and Diu 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 of a crop or crop product = Production x Producer prices.

a) The estimates of area and production of principal crops have been sourced from the NAD[1], details of which are available in table A.1. Producer prices are not available for Daman and Diu. Therefore, farm harvest prices of Dadra and Nagar Haveli for the following six crops are used, namely *Paddy, Ragi, Tur, Udid, Nigerseed, and Varui*. 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) Miscellaneous and unspecified crops are not present in Daman and Diu 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

1.11As 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 Daman and Diu DES, specifically the annual Integrated Sample Survey (ISS) of the Animal Husbandry Department of Daman and Diu.

[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. Daman and Diu produces only hen eggs and no 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 Daman and Diu. The production and value estimates of poultry meat for the UT have also been sourced from the NAD[2].

1.16**Wool,hair and bristles**: Both production and value estimates of goat hair and pig bristles have been sourced from the NAD[3]. 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**: Silk Worm Cocoons and Honey are not 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
h) Repairs and Maintenance

[2] The data on other meat products, by-products of the group and poultry meat have been cross-checked with the Daman and Diu DES publications.
[3] The data on wool, hair and bristles was cross-checked from the ISS.

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 and they are:

(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) Fuelwood
(c) Trees outside forests and
(c) Minor forest products.

1.27 Estimates of **industrial wood** are sourced from NAD and cross-checked against Daman and Diu DES.

1.28The 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 Trees outside forests: Estimates are sourced from the NAD.

1.30 **Minor forest products:** There are no minor forest products in Daman and Diu.

1.31 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

1.32 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.

1.33 Estimates of GVA of this activity are prepared using the production method. Gross value of output is estimated from output and prices of inland fish (includes subsistence fish), marine fish and prawns/shrimps as furnished by the Directorate of Fisheries of Daman and Diu.

1.34 The value of inputs and operational costs is taken as 22.5 per cent, 10 per cent, 22.5 per cent and one per cent of the value of output for marine fish, inland fish, prawns and subsistence fish respectively, as supplied by the NAD. Estimates of FISIM and CFC are supplied by the NAD. The GVA/NVA are derived using the same method as Agriculture.

Mining and Quarrying

1.35The 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.

1.36Estimates 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.

1.37There is no major mineral extraction in Daman and Diu. Sand mining is reported only for 2008–09 by NAD and that has been taken into account.

Manufacturing (registered)

1.38Manufacturing 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) whereon20 or more workers are working or were working on any day of the preceding12 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 the2008 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. Particularly in 2012–13, for the NIC code no. 242, the reported number from the ASI report was adjusted because it was too large to be plausible. The ASI 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 10workers (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.

1.44Labour inputs figures of compilation categories for 2008–09 to 2012–13 for Daman and Diu 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 are 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 Dadra and Nagar Haveli 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

1.48The economic activities relating to generation, transmission and distribution of electrical energy are covered under the electricity sub-sector. The manufacturing of gas in gas works including *gobar* gas and distribution through main to household, industrial, commercial and other users are covered under the gas sub-sector. 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. These estimates have been sourced from the NAD. Electricity is only supplied from the Central Government.

1.50**Gas**: The Gas sub-sector comprises of *Gobar* Gas and other Gas. However, Daman and Diu has no 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 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;
- Whole sale 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 are sourced from the NAD.
(ii) Private organised segment: The estimates for the two sectors – trade and hotels & restaurants have been sourced from the NAD.
(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**: Only public water transport activities are present in Daman Diu. The GVA have been sourced from the NAD.

1.62 **Air Transport**: Air transport estimates have been sourced from the NAD.

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

1.66The 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

1.69The 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, and
(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 organisations 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 sectorat 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 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.

Table A.1 SOURCES AND METHODS of Daman and Diu

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, jowar, bajra, maize, ragi, gram, tur, sesame, nigerseed, sugarcane)	♦ Area and Yield: NAD and Directorate of Economics & Statistics (DES), Government of Daman and Diu ♦ Prices: DES of Dadar and Nagar Haveli for six crops namely *Paddy, Ragi, Tur, Udid, Nigerseed, and Varui* 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 and tomato)	♦ 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)	♦ 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, Banana and Coconut	♦ 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			
Paddy straw, *wheat* straw, bajra	♦ Output and value taken	Taken from the publication directly	- same as above-

Item	*Source of Data*	*Assumption/method of estimation* *At current prices*	*At constant (2004-05) prices*
straw, *jowar* straw, maize straw, *ragi* straw, gram straw, , *arhar* sticks, *urad* straw, sugarcane trash, sesame sticks	from the NAD		
(4) Livestock products			
(i) Milk, eggs and wool	♦ 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	♦ ISS ♦ NAD	Taken from the publication directly	- same as above-
(iii) poultry meat	♦ Indian livestock census for population/NAD ♦ UT DES for prices	Taken from the publication directly	- same as above-
(iv) dung (a) dung cakes/fuel (b) dung manure	♦ NAD and DES	Taken from the publication directly	- same as above-
(v) increment in livestock	♦ Indian Livestock Census for population/NAD ♦ UT DES for prices	Taken from the publication directly	- same as above-
(b) Inputs			
(i) Seeds	♦ NAD	Taken directly	Taken directly
(ii)Fodder/Feed of livestock and operational costs for livestock	♦ NAD	Taken directly	Taken directly
(iii) Fertilisers, Manure including pesticides	♦ NAD	Taken directly	Taken directly
(iv) Repair and maintenance	♦ NAD	Taken directly	Taken directly
(v) electricity	♦ NAD	Taken directly	Taken directly
(vi) Diesel oil	♦ NAD	Taken directly	Taken directly
(vii) Market charges for crops	♦ NAD	Taken directly	Taken directly

Item	*Source of Data*	*Assumption/method of estimation* *At current prices*	*At constant (2004-05) prices*
2. **Forestry**			
Value of output (1) Industrial wood	♦ NAD ♦ Daman and Diu DES	Value of output = production * current year price	Value of output = production * base year price
(2) fuelwood	♦ 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
(3) Trees outside forests	♦ NAD	Value of output = production * current year price	Value of output = production * base year price
Inputs of forestry sector	♦ 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) Marine fish, Inland fish (including subsistence fishing) and Prawns	♦ Quantity and value from Directorate of Fisheries of Daman and Diu	Taken directly	Value of output = production * base year price
inputs (1) Marine fish and prawns	♦ NAD	Value of inputs = 0.225 * value of output of total production of marine fish and prawns	Value of inputs = .225 * value of output of total production of marine fish and prawns at base year prices
(2) Inland fish	♦ 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**			
(1) Minor minerals	♦ NAD	♦ Taken directly	♦ Taken directly
5. **Manufacturing**			
1. Registered Manufacturing	♦ CSO for ASI	♦ GVA are from the ASI.	♦ Current price estimates are

Item	*Source of Data*	*Assumption/method of estimation* *At current prices*	*At constant (2004-05) prices*
	♦ M/Industry for the WPI		deflated with the corresponding sectoral WPI.
2. Unregistered Manufacturing unregistered NIC 2008 Codes – 10,12, 13, 14, 17 to 22, 25, 27, 28, 32 and 33	♦ Surveys on unorganised manufacturing sector conducted by the NSSO, 2005–06 and 2010–11 for VAPW ♦ NSS Employment Unemployment Surveys 2004–05 and 2011–12 and Population Census 2001 and 2011 for for labour inputs estimates ♦ M/Industry for the WPI	♦ 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 categories done by multiplication of Labour inputs and VAPW of respective years.	♦ Current price estimates are deflated with the corresponding WPI.
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.
7. **Construction**			
House hold sector ♦ Rural residential buildings (RRB) (new construction outlays) ♦ RRB-repair and maintenance (R&M) ♦ Urban residential buildings (URB) (new construction outlays) ♦ URB – repair and maintenance ♦ R/U – non-residential building other construction works (new	♦ NAD	♦ Taken directly	Deflated by index of CPI (AL) of Gujarat for rural areas and (CPI(IW) of Surat for urban areas

Item	*Source of Data*	*Assumption/method of estimation* *At current prices*	*At constant (2004-05) prices*
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		
Residual Sector	♦ Supplied by NAD	Supplied by NAD	Same as above
8. **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 ♦ wholesale trade (except motor vehicles) + auctioning activity ♦ Retail trade except motor vehicles Repair of personal household goods NIC 2008 Codes – 45,46,47,92 and 952	♦ Informal sector survey, NSS 55th and 67th round 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
b) Hotels and restaurants – Public sector	♦ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.
Private organised	♦ NAD	Taken directly	Deflated by index of CPI (AL) of Gujarat for rural areas and (CPI(IW) of Surat for urban areas
Private unorganised NIC 2008 Codes – 55 and 56	♦ Informal sector survey, NSS 55th and 67th round for VAPW ♦ EUS, NSS 61st and 68th &	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

Item	*Source of Data*	*Assumption/method of estimation* *At current prices*	*At constant (2004-05) prices*
	Population Census 2001 and 2011 rounds for labour inputs estimations		
9. **Transport, Storage & Communications**			
i) Transport and storage			
Water and Air Transport (Only Public Sector)	♦ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.
Private unorganised Mechanised and Non-mechanised road transport NIC 2008 Codes – 491, 492, 493, 50, 51 and 522	♦ 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			
Communication	♦ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.
10. **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	♦ Enterprise Survey, 63rd and 67th rounds for VAPW ♦ EUS, NSS 61st and 68th & Population Census 2001 and 2011 rounds for	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

Item	*Source of Data*	*Assumption/method of estimation* *At current prices*	*At constant (2004-05) prices*
	labour inputs estimations		
Ownership of dwellings	♦ NAD	Taken directly	Current price estimates are deflated with the sectoral implicit price deflator at the all India level.
11. **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.
12**. 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 uorganised NIC 2008 Codes –85, 86, 87, 88, 90, 91, 94, 96, 97, 99, 750, 37, 38, 39, 591, 592-59202 and 6391	♦ 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
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.