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SIZE, GROWTH, AND GEOGRAPHIES OF CREATIVE INDUSTRIES IN INDIA

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4.1 Introduction

India is endowed with enormous cultural diversity, which can make it a global leader in the creative sector. The development of knowledge and related industries can have a multiplier effect in the promotion and branding of cultural products. However, India has not strategized its policies and administrative frameworks to promote and develop the creative industries (CIs) (Shaban and Vermeylen 2015). There has been a lack of coherent policy framework and definition in the country in this regard. As mentioned in the previous chapter, there is no coherent set of data available which can help to assess the size, diversity, distribution, and growth of this sector. There are a few studies (Patnaik 2020a, 2020b; Matthew n.d.) that have come up with their estimates based on different data sets. However, such data cannot be taken as consistent evidence for a complete understanding of the creative sector in the country. As mentioned in the previous chapter, another major problem concerning the creative industries has been the definitional ambiguity. Many organizations and researchers have propounded their own definitions rather than developing a common framework. Studies on the size of creative industries in India are, therefore, caught in these two issues of data quality and definitional ambiguity.

To illustrate this, we cite two recent estimates. Megha Patnaik (2020a, 2020b) following the WIPO copyright definition of creative industries, and data from Annual Survey of Industries (ASI), Centre for Monitoring Indian Economy's (CMIE) Prowess data, and various industry reports, assesses that gross value addition (GVA) in Indian copyright industries was INR 890 billion (about US$13.2 billion) in 2016–17, which was about 0.58% of the total value added in the economy in comparison to 5.5% at the global level. That means that India's creative sector in terms of its size in monetary terms is still very small. Patnaik argues that printing press, literature, dramatic arts, music, and film constitute about 45% of this value addition while creative works through television

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and radio contribute about 40% of the gross value added. Patnaik argues that employment size in the creative sector based on the WIPO definition is about 1.1 million persons. However, there are issues with the data set used. The ASI data is only for registered firms, and, in India, there are a number of informal creative enterprises which are not registered under the Factories Act, 1948. Such enterprises are mainly run by households or are seasonal. In 2013–14, the own account establishments (OAE) run by households, which are not registered, constituted 72.4% of the total creative establishments (see Appendix Tables 4A.1 and 4A.2). About 52.4% of the GVA in the Indian economy arose from the informal sector in 2017–18, and the informal sector employed 86.8% of the total workers in 2019. These indicate the significance of the informal sector in the Indian economy (Murthy 2019). Even though the informal sector's contribution in the total value added is relatively small, in terms of share in total CI employment it is large. The CMIE Prowess data are further problematic in the estimation of the size of the creative sector as they are based on the annual reports of sampled companies, which do not guarantee that all the firms have been included in the Prowess database. Matthew (n.d.) estimates that India has 40 million workers in CIs. However, the number computed by us and presented here are almost 10 times lower than those estimated by Mathew.

Given these limitations, we opted to use the Economic Census (EC) data, which includes both the registered and non-registered (informal sector) industries and provide us possibilities to assess the distribution at the state and district levels. EC data has its advantages. In EC all the industries are included, and data is available for industrial enterprises and the number of workers, along with other useful information. The main limitation of EC data is that it does not contain GVA, and NIC is up to 3 digits (for 2013–14) for some rounds and 4 for others (for 1998). We have used this EC data for capturing the distribution of workers and CIs in the country. Further, we have used the UNCTAD (2010) definition of creative industries which is relatively wider in conception and easier to relate to the NICs.

We have classified the CIs in sub-sectors (as discussed in Chapter 3) and presented the number of enterprises and workers by state and districts. We have mapped the number of workers by the district to access the geographical concentration of workers by the district to identify the clustering patterns. The mapping of the absolute size of workers may have the limitation that the bigger districts with large populations may have a larger number of workers than smaller districts, but the advantage of this is that it helps to capture the number in space at microspatial scale as opposed to states, which are larger spatial units and some of the states are even larger in area and population than many European countries. Further, as our aim is not to assess the share of CI workers and enterprises within respective districts but to find out where workers are located, the plotting of numbers of workers fairly serves our purpose. A high concentration of (number of) workers in a district and its surrounding districts is called 'clustering' (alternatively, clustering can also be defined as ratio of creative

workers to the total workers or population). We have not used any threshold number of population to define a cluster, but it has been based on a relatively higher number of workers located in a district and/or its surrounding districts. While plotting the absolute numbers on a map, we have used Jenks' natural break classification method (Jenks 1977; Rey et al. 2016), which helps us in finding out structural breaks in the data as it minimizes the within-group variance and maximizes the between-group variance. Therefore, the data may look oddly classed on maps, but it shows natural breaks in distribution over space. We have also attempted to study the impact of per capita income, higher education, and urbanization rate on creative sector workers at the state level in India. We assume that these factors positively impact the distribution of workers.

The rest of this chapter is divided as follows. Section 4.2 presents the size and growth of CIs at the all-India level, while Section 4.3 deals with the geographies of creative industries (all creative enterprises and workers) at the regional or state level. Section 4.4 studies the sectoral (UNCTAD grouping) distribution and clustering of CIs in India, while Section 4.5 examines the determinants of the distribution of creative sector workers at the state level. Section 4.6 concludes the chapter.

4.2 Size and growth

The data related to CIs at the all-India level are presented in Tables 4.1 and 4.2. From these tables, the following major observations with regard to growth and sectoral shares can be made. First, CIs have experienced significant growth between 1998 and 2013–14. The number of creative enterprises has increased from about 1.52 million to about 2.54 million in the 15 years period, experiencing a compound growth rate of 3.5% per annum, while the number of workers has also grown at roughly the same rate (3.4% per annum) during this period, which has led to the expansion of the size of CI workers from about 4.08 million to 6.76 million. Second, there are some discernible patterns in growth by sector both in terms of the number of creative enterprises and workers engaged therein. Performing arts has experienced the highest growth rate, followed by new media, art crafts (handloom and handicrafts), visual arts, and audio-visuals. The higher growth rates of these sectors are not surprising, as they experienced higher demand within (and also outside) the country since the liberalization. The liberalization-led economic growth has resulted in the rise of the Indian middle class (Shaban 2021) who are the major consumers of these goods and services. The design, creative services, and publishing and print media have experienced negative growth rates and the reasons may be the impact of digitalization on these sectors. The online content and even imports from other countries obviate the needs of workers and specialized design studios. The creative service sector also seems to be affected by digitalization as online availability of information diminishes the demand of this sector. For instance, information being available on the internet obviates the hiring of

Table 4.1 Growth of creative industries by sectors in India

S. no.	*Creative industries by sectors*	*1998*			*2013–14*			*CAGR (%), 1998 and 2013–14*	
		Enterprises (000)	*Mean no. of workers*	*Total workers (000)*	*Enterprises (000)*	*Mean no. of workers*	*Total workers (000)*	*Enterprises*	*Workers*
1	Art crafts	341.8	3.0	1015.5	1873.6	2.2	4204.8	12.0	9.9
2	Cultural sites	60.2	2.3	141.3	79.7	2.2	175.1	1.9	1.4
3	Performing arts	3.2	4.1	13.0	114.9	2.5	291.5	26.9	23.0
4	Visual arts	93.1	1.8	164.6	197.9	1.7	337.9	5.2	4.9
5	Audio-visuals	19.8	3.5	69.4	32.3	3.7	120.4	3.3	3.7
6	Publishing and print media	93.4	5.0	465.5	39.6	3.6	141.3	−5.5	−7.6
7	New media	16.8	5.7	96.0	116.0	9.9	1143.6	13.8	18.0
8	Design	212.5	3.3	700.8	21.8	3.0	64.5	−14.1	−14.7
9	Creative services	679.8	2.1	1410.3	66.0	4.3	285.5	−14.4	−10.1
	Total	1520.6	2.7	4076.5	2541.7	2.7	6764.6	3.5	3.4

Note: CAGR = compound annual growth rate (%).

Source: Computed using data from MoSPI (1998, 2016).

Table 4.2 Share (%) of enterprises and workers by sectors in India

S. no.	*Creative industries by sectors*	*1998*		*2013–14*	
		Enterprises (%)	*Total workers (%)*	*Enterprises (%)*	*Total workers (%)*
1	Art crafts	22.5	24.9	73.7	62.2
2	Cultural sites	4.0	3.5	3.1	2.6
3	Performing arts and visual arts	0.2	0.3	4.5	4.3
4	Visual arts	6.1	4.0	7.8	5.0
5	Audio-visuals	1.3	1.7	1.3	1.8
6	Publishing and print media	6.1	11.4	1.6	2.1
7	New media	1.1	2.4	4.6	16.9
8	Design	14.0	17.2	0.9	1.0
9	Creative services	44.7	34.6	2.6	4.2
	Total	100.0	100.0	100.0	100.0

Source: Computed using data from MoSPI (1998, 2016).

guides by visitors. Similarly, information on design can be provided from other countries through the internet, as we see in the gems and jewellery industries.

Third, with regard to the constitution of CIs in terms of share of different sub-sectors, creative services constituted the largest share in 1998, but the share of art craft (handloom and handicraft) has massively increased in 2013–14 (Table 4.2). New media has experienced a significant increase in its share, from 1.1% of total creative enterprises and 2.4% of the total CI workers in 1998 to 4.6% of the enterprises and 16.9% of the workers in 2013–14. In fact, India has had an edge over other countries like China in information and communication technologies (ICT) as it has a large base of English educated population. Hyderabad and Bengaluru rapidly rose in the last decade of 20th century and thereafter due to the location and growth of ICT industries in these cities. The decline of the share of creative services (the category includes architectural services, advertisements, creative R&D, and cultural and recreational services) has been very significant. We understand that this may also result from a less than exact match of the National Industrial Classification (NIC) in both the years (see Chapter 3), but this rate of decline obviously shows that the decline is real and substantial. However, growth in art crafts (handloom and handicraft) has more than compensated for the decline in creative services in terms of employment generation and the number of enterprises. Lastly, the average number of workers in creative sector enterprises in India is very small. It is interesting to note that it has been the same, i.e. 2.7 workers per enterprise, in 1998 as well as in 2013–14. New media and creative services saw significant consolidation, in terms of the increase of workers per industry during the period, but the art crafts and performing arts experienced a comparatively large decline in workers per enterprise.

Fourth, about 6% of creative enterprises in 1998 and 10% in 2013–14 were seasonal in nature (operating only for a few months in a year), and the shares of

the total workers engaged in these enterprises were 5.3% and 8.1%, respectively, in the same years. As expected, art crafts related enterprises are more seasonal in nature than any other type of enterprises. Substantial share of performing arts and creative services has also emerged as seasonal in comparison to those in the year 1998 (see Appendix Table 4A.1).

Fifth, most of the CIs in India are informal in nature. In 1998, about 97% of creative enterprises were unregistered, and a substantial share of the same was from Own Account Enterprises (OAEs). OAEs are that category of enterprises which do not employ any hired workers on fairly regular basis and are largely run by households. For 2013–14, the data related to registered and unregistered enterprises is not available but the share of OAE was substantially higher, 72.4% of the total enterprises, in comparison to that in (69.9%) 1998 (see Table 4A.2). More than 90% of the workers were working in non-registered or informal creative enterprises in 1998. The share of informal enterprises we cannot accurately measure as data on registered and unregistered enterprises are not available, but it may be still around 90%, as the share workers in OAEs has risen in 2013–14 while those in NDEs has remained almost the same.

Sixth, as most of industries are informal in nature, they lack formal finance. About 87% of enterprises (employing about 81% of the workers) in 1998 and 83% (employing about 80% of the total workers) in 2013–14 were self-financed (Table 4A.3). Available data show that considerable share (%) of enterprises from cultural sites and performing arts had donations from civil society groups and non-profit organizations, while substantial share of cultural sites had received funding from the government.

Seventh, In India, the share of proprietary (private) creative enterprises is very large. It was about 97% in 1998, while the same was about 93% in 2013–14 (Table 4A.4). However, the workers employed in non-proprietary enterprises have increased substantially from 6.8% to 21.2% in 2013–14. This shows that trust- and government-owned larger enterprises are emerging in the country.

Eighth, given that India is largely a patriarchal society, the ownership of creative enterprises by females are quite low (Table 4A.5). However, the share of female-owned enterprises has also risen substantially, i.e. from 4.1% (employing 3.8% of the total workers) in 1998 to 18.5% (employing 14.0% of the total workers) in 2013–14. Sectorally, noticeable presence of female-owned enterprises is only in art crafts (about 21.9% of the total art craft enterprises) and cultural site (20.6% of the total enterprises related to cultural sites) sectors.

4.3 Geographies of creative industries

What are the regional growth patterns and clustering of CIs? The data presented in Table 4.3 reveals that at the state level, the southern and western states of the country have a higher concentration of enterprises as well workers in the country. Gujarat, Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu, and Kerala stand out in terms of relatively higher concentrations of both the enterprises and workers in comparison to other states. Outside these

Table 4.3 Growth of total creative enterprises, workers, and mean workers by states, 1998 and 2013–14

States	*Creative enterprises (000)*		*CI workers (000)*		*CAGR (%)*		*Mean workers / enterprise*	
	1998	*2013–14*	*1998*	*2013–14*	*Enterprises*	*Workers*	*1998*	*2013–14*
Andaman and Nicobar Islands	0.4	0.5	1.6	1.5	0.4	−0.1	3.6	3.3
Andhra Pradesh	96.7	172.4	181.3	326.3	3.9	4.0	1.9	1.9
Arunachal Pradesh	0.8	0.8	2.3	2.1	−0.2	−0.8	2.9	2.6
Assam	20.7	105.9	68.2	225.9	11.5	8.3	3.3	2.1
Bihar	48.1	56.8	88.0	106.9	1.1	1.3	1.8	1.9
Chandigarh	1.8	1.7	10.7	22.8	−0.5	5.2	5.9	13.5
Chhattisgarh	23.0	28.8	42.6	59.5	1.5	2.3	1.9	2.1
Dadra and Nagar Haveli	0.1	0.3	0.6	0.7	6.7	1.4	5.5	2.6
Daman and Diu	0.2	0.2	0.6	0.6	1.9	0.3	3.5	2.7
Delhi	53.7	23.4	259.7	100.8	−5.4	−6.1	4.8	4.3
Goa	4.8	2.6	11.6	7.1	−4.0	−3.2	2.4	2.7
Gujarat	84.6	105.8	417.2	348.6	1.5	−1.2	4.9	3.3
Haryana	31.6	32.6	64.5	86.0	0.2	1.9	2.0	2.6
Himachal Pradesh	11.2	17.7	23.8	27.3	3.1	0.9	2.1	1.5
Jammu and Kashmir	17.3	60.3	37.8	112.7	8.7	7.6	2.2	1.9
Jharkhand	13.4	27.6	27.6	59.2	4.9	5.2	2.1	2.1
Karnataka	71.4	95.9	186.9	308.2	2.0	3.4	2.6	3.2
Kerala	81.4	77.4	191.2	238.6	−0.3	1.5	2.3	3.1
Lakshadweep	0.1	0.1	0.4	0.4	3.4	0.7	5.0	3.4
Madhya Pradesh	83.1	74.7	164.8	157.3	−0.7	−0.3	2.0	2.1
Maharashtra	152.6	170.3	420.9	664.2	0.7	3.1	2.8	3.9
Manipur	5.0	59.0	10.9	79.5	17.9	14.1	2.2	1.3
Meghalaya	1.2	4.6	4.1	10.3	9.7	6.3	3.6	2.2
Mizoram	0.8	2.9	2.1	7.1	8.9	8.6	2.6	2.4
Nagaland	0.7	5.4	2.2	14.8	14.0	13.6	2.9	2.8
Odisha	51.7	171.0	99.7	368.5	8.3	9.1	1.9	2.2
Puducherry	2.3	2.2	11.2	12.6	−0.4	0.8	4.9	5.9
Punjab	37.0	41.7	78.6	92.2	0.8	1.1	2.1	2.2
Rajasthan	83.1	161.8	170.7	353.2	4.5	5.0	2.1	2.2
Sikkim	0.4	1.1	1.2	2.5	6.7	5.2	2.9	2.4
Tamil Nadu	111.4	190.4	323.3	621.8	3.6	4.5	2.9	3.3
Telangana	81.9	71.0	228.0	437.0	−1.0	4.4	2.8	6.2
Tripura	4.9	13.7	8.9	22.9	7.2	6.5	1.8	1.7
Uttar Pradesh	154.2	363.0	405.7	949.2	5.9	5.8	2.6	2.6
Uttarakhand	9.9	14.7	19.3	31.9	2.6	3.4	1.9	2.2
West Bengal	178.8	383.5	508.5	904.1	5.2	3.9	2.8	2.4
Total	1520.6	2541.7	4076.5	6764.6	3.5	3.4	2.7	2.7

Note: CAGR (compound annual growth rate (%).

Source: Computed using data from MoSPI (1998, 2016).

states, Bengal is another state of higher concentration of CIs. Bengal is known for its handloom and handicraft and so are the southern and western states of India. There are many handloom and handicraft clusters which are further discussed in Chapters 6 and 14. There are also isolated pockets of concentration within some of the states like Uttar Pradesh, Rajasthan, and Jammu and Kashmir. This concentration also becomes very visible when one maps the concentration ratio (that is computed as CI workers in a district divided by total CI workers at all-India level multiplied by 1000) of workers in 1998 and 2013–14. Figure 4.1 shows that there are prominent clusters of concentrations of CI workers in (a) the Kolkata region, (b) Mumbai-Pune region, (c) Surat, (d) Hyderabad region, (e) Bengaluru, and (f) Kanchipuram. Bareilly in Uttar Pradesh is the only major cluster in northern India. There are several secondary clusters of workers and prominent of them are Jaipur, Noida, Varanasi, Coimbatore, Ernakulam, and Thiruvananthapuram. The tertiary clusters are again more prominent in southern India (Tamil Nadu, Karnataka, Kerala, and Andhra Pradesh) and in Agra-Jaipur-Bareilly-Amritsar belt. Lucknow-Kanpur in Uttar Pradesh and Berpeta, Kamrup, and Nagaon are other tertiary concentrations of the CI workers in India. As such, we find that the geography of creative industries in India is very uneven, and the geography of 1998 of CI workers also persists in 2013–14 without much changes (Figures 4.1 and 4.2).

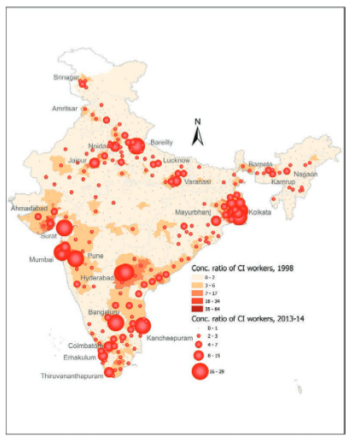

Figure 4.1 Concentration ratios of CI workers by districts in India, 1998 and 2013–14
Source: Computed using data from MoSPI (1998, 2016).

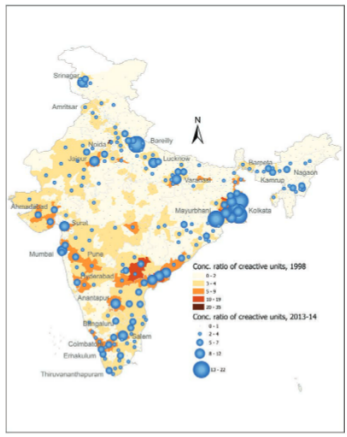

Figure 4.2 Concentration ratios of CI establishments by districts in India, 1998 and 2013–14
Source: Computed using data from MoSPI (1998, 2016).

It also needs to be noted that the mapping of number of creative enterprises has limited significance as the enterprises differ in terms of size of workers. The disconnect between the spatial importance due to enterprises and workers can be seen comparing both Figures 4.1 and 4.2. The concentration ratio of creative enterprises is much lower in southern India than the concentration ratio of workers. That shows that the number of workers per enterprise in southern India is higher than those in northern India (see Table 4.1). Further, the growth of creative enterprises and workers is higher in northern and north-eastern Indian states as compared to the southern states. As most of the northern and north-eastern states of the country are economically undeveloped but now growing (Sanga and Shaban 2017), it shows that as the development is trickling down, the disposable income is growing, the demand-driven growth of CIs is picking up.

In terms of concentration of industries, in 1998, Delhi (combined all the districts of Delhi, as data are not available at district level for Delhi) ranked first with a concentration ratio of CI workers of 63.7 (concentration ratio is computed as CI workers in a district divided by total CI workers at all-India level multiplied by 1000). Delhi was followed by Greater Mumbai (with a concentration ratio

of CI workers 33.7), Kolkata (27.8), Surat (26.0), Bhavnagar (18.2), Nalgonda (16.7), Bengaluru (15.4), Hugli (13.8), North 24 Parganas (13.4), Ahmedabad (12.1), and Chennai (11.8). Thus, in 1998, we had all the top metropolitan districts among the top 10 districts in terms of the concentration of CI workers. However, West Bengal had three districts in the top 10, i.e. Kolkata, Hugli, and North 24 Parganas. This was mainly because of the high concentration of art craft (handloom and handicrafts) workers in Hugli and North 24 Parganas.

We have more fine-grained data in 2013–14, as Delhi data is available by districts (that was only available at the state level in 1998) which is more comparable to other districts of India. In 2013–14, the top 10 districts in descending order, in terms of concentration ratio of workers, were Rangareddy (concentration ratio 29.0), the extension and neighbouring district of Hyderabad, Kanchipuram (24.9), Mumbai Suburban (24.7), Hyderabad (22.0), North 24 Parganas (21.7), Pune (19.6), Surat (19.1), Bengaluru (19.0), Bareilly (18.7), and Haora (18.1). Thus, for most of the districts, the order did not change. Delhi and Mumbai lost their positions because of the division of workers data in several districts for Delhi, and for Mumbai in Mumbai and Mumbai Sub-urban districts. However, Hyderabad and Rangareddy emerge in 2013–14 as a new cluster of concentration of CI workers.

4.4 Sectoral clustering and patterns in the distribution

In this section, we examine the growth and distribution of enterprises and workers at state level, and clustering patterns of workers at district level of nine major sectors of CIs.

4.4.1 Art crafts

In India, art crafts (handloom and handicraft) constitutes the largest sector of CIs (see Chapters 14 to 17 for detailed discussion on India's art crafts). State-wise distribution, growth rates, and relative concentration of workers and art craft establishments are presented in Table 4.4. The major observations which can be drawn from the table and the district-wise distribution presented in Figure 4.3 are as follows. First, West Bengal has a major concentration of art craft workers and industries and is followed by Uttar Pradesh, Odisha, Andhra Pradesh, Gujarat, and Assam. However, it also needs to be noted that the eastern states of India have more particularities of culture, and this has given rise to region-specific crafts, for instance in West Bengal, Orissa, and Assam. These states are still economically and educationally underdeveloped and as such traditional craft industries employ a large share of the total workers. In this globalization phase, where the demand for crafts is rising with development, these states stand to benefit much by promoting their crafts and integrating the same with national and international markets. Cultural marketing is the approach they can adopt with an open policy of welcoming foreign and domestic tourists and

Table 4.4 Growth of art craft enterprises, workers, and location quotient by states, 1998 and 2013–14

States	*Enterprises (000)*		*Workers (000)*		*CAGR (%)*		*LQ for workers*	
	1998	*2013–14*	*1998*	*2013–14*	*Enterprises*	*workers*	*1998*	*2013–14*
Andaman and Nicobar Islands	0.0	0.2	0.2	0.4	12.5	4.8	0.5	0.4
Andhra Pradesh	27.4	141.3	46.7	254.0	11.6	12.0	1.0	1.3
Arunachal Pradesh	0.1	0.2	0.4	0.6	7.4	3.2	0.7	0.5
Assam	2.3	91.1	10.3	189.9	28.0	21.5	0.6	1.4
Bihar	13.9	31.8	24.3	60.8	5.7	6.3	1.1	0.9
Chandigarh	0.2	0.3	0.9	0.6	3.2	−2.9	0.3	0.0
Chhattisgarh	3.1	21.4	6.6	42.1	13.6	13.2	0.6	1.1
Dadra and Nagar Haveli	0.0	0.1	0.1	0.1	15.8	4.4	0.5	0.3
Daman and Diu	0.0	0.0	0.1	0.0	5.2	−6.2	0.9	0.1
Delhi	4.3	9.3	32.8	35.6	5.2	0.5	0.5	0.6
Goa	2.1	0.9	4.3	1.5	−5.4	−6.8	1.4	0.3
Gujarat	7.0	67.9	31.6	245.8	16.4	14.6	0.3	1.1
Haryana	5.0	16.7	15.9	41.8	8.4	6.6	1.0	0.8
Himachal Pradesh	4.4	12.2	8.8	17.2	7.1	4.6	1.5	1.0
Jammu and Kashmir	12.3	54.4	29.7	100.6	10.4	8.5	3.1	1.4
Jharkhand	1.3	15.0	3.2	30.8	17.4	16.2	0.5	0.8
Karnataka	10.9	62.9	36.9	149.4	12.4	9.8	0.8	0.8
Kerala	9.2	30.3	36.4	66.9	8.3	4.2	0.8	0.5
Lakshadweep	0.0	0.0	0.0	0.1	13.1	0.4	0.5	0.2
Madhya Pradesh	13.9	50.6	32.2	98.8	9.0	7.8	0.8	1.0
Maharashtra	18.2	84.7	59.1	215.4	10.8	9.0	0.6	0.5
Manipur	2.3	57.0	3.6	75.1	23.7	22.4	1.3	1.5
Meghalaya	0.2	3.8	0.6	7.7	22.6	18.4	0.6	1.2
Mizoram	0.0	2.4	0.1	5.9	34.7	29.7	0.2	1.3
Nagaland	0.0	4.8	0.1	13.6	53.2	44.2	0.1	1.5
Odisha	7.3	146.1	13.7	305.5	22.2	23.0	0.5	1.3
Puducherry	0.1	0.4	1.3	2.7	7.0	4.9	0.5	0.3
Punjab	6.4	15.2	22.0	39.9	5.9	4.0	1.2	0.7
Rajasthan	25.1	123.9	55.6	263.3	11.2	10.9	1.3	1.2
Sikkim	0.1	0.8	0.4	1.6	14.1	10.4	1.2	1.0
Tamil Nadu	10.7	127.4	64.6	310.2	18.0	11.0	0.8	0.8
Telangana	43.3	40.4	119.1	74.5	−0.5	−3.1	2.1	0.3
Tripura	1.0	10.9	1.7	18.2	17.6	17.2	0.8	1.3
Uttar Pradesh	50.2	310.0	186.1	769.6	12.9	9.9	1.8	1.3
Uttarakhand	2.9	9.4	5.5	18.4	8.1	8.4	1.2	0.9
West Bengal	56.8	330.1	160.8	746.2	12.4	10.8	1.2	1.3
Total	341.8	1873.6	1015.5	4204.8	12.0	9.9	1.0	1.0

Note: CAGR = Compound annual growth rate; LQ = Location quotient.

Source: Computed using data from MoSPI (1998, 2016).

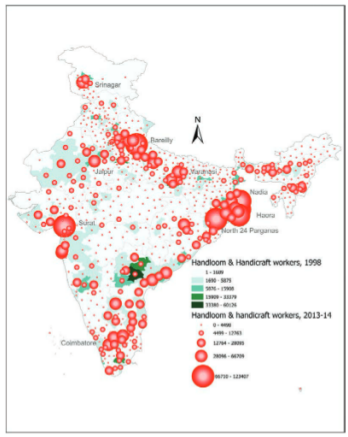

Figure 4.3 Concentration of art craft workers by districts in India, 1998 and 2013–14
Source: Computed using data from MoSPI (1998, 2016).

training the workers to bring creative changes in the products to align them with tastes and the needs of the consumers.

Second, the growth rate of enterprises in many states has been higher than workers, except in Andhra Pradesh; this shows the growth of small enterprises. At the all-India level as well, the growth rate of workers has been lower than CI enterprises. Third, the relative concentration of art craft workers as shown by the location quotients have changed over time among Indian states. The relative concentrations have strengthened in the eastern and in most of the north-eastern states of the country. But it has declined in major states like Uttar Pradesh, Bihar, Telangana, and Jammu and Kashmir.

Fourth, there are four primary, i.e. major (recognized in terms of size of concentration of workers based on four group classification by Jenks' method), and secondary clusters of art craft workers. The primary clusters in order of their size are (a) Kolkata and its neighbouring districts, (b) western Uttar Pradesh (with Bareilly as the major hub), (c) a contiguous area of northern Tamil Nadu, southern Karnataka, and coastal Andhra Pradesh, and (d) Surat-Mumbai region. The secondary clusters are (a) south-eastern Uttar Pradesh, with Varanasi as the major hub, (b) Srinagar region, (c) Brahmaputra valley of Assam, and (4) Manipur. Besides these primary and secondary clusters, we have several districts with

sizeable shares of art craft workers (see also Chapter 6 and 14). Fifth, there has been a relative decline in the position of some of the districts in terms of the number of art craft workers in western Rajasthan, western Maharashtra, and Telangana in 2013–14 in comparison to 1998 (compare the shaded colour and size of the spheres in Figure 4.3). One of the reasons for this may be that they have experienced a shift from this traditional sector to better paying works, as art crafts (handloom and handicrafts) are mainly of subsistence nature in many districts. This is very plausible as Telangana, Maharashtra, and also Rajasthan have experienced better economic growth, especially after 1998 (Sanga and Shaban 2017). In 1998, Nalgonda district of Telangana, known for its Pochampally *saris*, ranked first in terms of art craft workers in the country (with 60,126 workers) and was followed by Bhadohi (known for its carpet industry), Delhi, Kolkata, Warangal, Agra (known for marble craft), and Hugli (known for *dhotis* and *saris*). However, in 2013, Bareilly emerged as the district with the highest number of art craft workers (123,407) and was followed by Haora, Surat, North 24 Parganas, Nadia, South 24 Parganas, Mayurbhanj, Varanasi, Bardhaman, and Jaipur districts, in descending order.

4.4.2 Cultural sites

India is an old civilization. It has historical continuity in growth of its culture. It needs to be noted that what we call India geographically is a space of cultural conglomeration in which several cultural streams have taken birth, persisted, and grown. The newer cultures by new rulers were planted but the older ones continued to grow, and the older ones did impact the evolution of the newer cultures and made them more composite (Khilnani 1997). For instance, Taj Mahal of Agra is a blend of Islamic, Indian, and Persian style of Architecture (Britannica 2021). The cultural styles of different regions and communities coexist together and enhance the beauty of Taj Mahal, and several other tangible and intangible heritages, including languages, dresses, foods, and celebrations.

Several of the communities, sects, and saints created their own temples, mosques, churches, etc., at regional and local levels, as were the monuments created by the rulers at the supra-regional level. Many of these cultural sites have been identified by Archaeological Survey of India, which also plays very important role in their conservation and protection. There are currently "more than 3,650 ancient monuments and archaeological sites and remains of national importance" (Archaeological Survey of India 2011a). India has total 981 world heritage. "These include 759 cultural, 193 natural and 29 mixed properties in 137 state parties" (Archaeological Survey of India 2011b). These cultural sites are visited by millions of tourists annually and play important role in the economic development of the regions they are located in.

The cultural sites in India are located in clusters. There are three primary clusters of workers of cultural sites in India, (a) Tamil Nadu-Kerala-southern Karnataka, (b) Southern West Bengal, and (c) Jharkhand-Southern

Bihar (Figure 4.4 and Table 4.5). The secondary clusters are (a) Mumbai-Pune region, (b) Vadodara-Ahmedabad region, and (c) Brahmaputra valley of Assam. It is interesting to note that in many states the numbers of creative enterprises and workers have experienced negative growth rates between 1998 and 2013–14. Jharkhand, Orissa, Gujarat, and Goa are the only states with significant positive growth rates of workers. The rise of digital technologies may have impacted the workers in this sector, and there may also have been declines of many religious places and traditional places of fairs. The lack of preservation may be leading to the lack of conservations, which in turn may be negatively affecting the employment in the sector. This is why Verma (2021) laments the state neglect of cultural sites and heritage in India and importantly points out that this ignorance of the national culture and history only leads to cultural conservativeness among people. Verma's argument implies that better awareness of national cultural heritage, many of which arose from a mixed traditions, will lead to better appreciations of all the heritages and their preservations and conservations.

In terms of the number of workers, Delhi state ranked first in 1998 with 9,301 cultural site workers, but none of its districts finds a place in the top 10 districts in 2013–14. In 1998, Delhi was followed by Mumbai and Bengaluru.

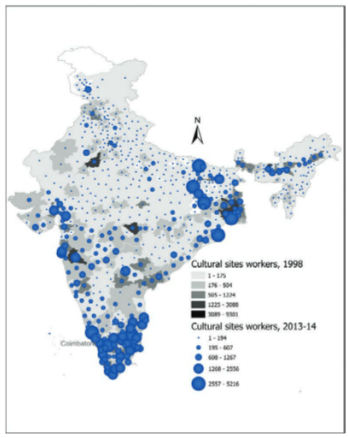

Figure 4.4 Distribution of workers employed at cultural sites, 1998 and 2013–14
Source: Computed using data from MoSPI (1998, 2016).

Table 4.5 Growth of cultural sites, workers, and location quotient by states, 1998 and 2013–14

States	*Enterprises (000)*		*Workers (000)*		*CAGR (%)*		*LQ enterprises*		*LQ for workers*	
	1998	*2013–14*	*1998*	*2013–14*	*Enterprises*	*workers*	*1998*	*2013–14*	*1998*	*2013–14*
Andaman and Nicobar Islands	0.1	0.0	0.2	0.2	−5.2	−1.1	3.4	1.7	3.7	4.1
Andhra Pradesh	2.8	1.8	4.8	4.0	−2.7	−1.2	0.7	0.3	0.8	0.5
Arunachal Pradesh	0.2	0.0	0.4	0.1	−11.6	−10.1	5.4	1.0	5.2	1.5
Assam	2.2	2.5	8.7	7.0	1.0	−1.5	2.7	0.8	3.7	1.2
Bihar	1.0	9.0	1.8	14.6	15.8	14.8	0.5	5.0	0.6	5.3
Chandigarh	0.1	0.0	0.7	0.1	−11.1	−14.0	1.7	0.4	2.0	0.1
Chhattisgarh	0.7	0.9	1.3	1.5	1.5	1.0	0.8	1.0	0.9	1.0
Dadra and Nagar Haveli	0.0	0.0	0.0	0.0	−1.7	−6.9	2.2	0.8	2.3	0.9
Daman and Diu	0.0	0.0	0.0	0.0	1.5	2.7	1.2	1.4	0.6	1.1
Delhi	3.7	0.2	9.3	1.1	−17.2	−13.2	2.1	0.3	1.1	0.4
Goa	0.2	0.2	0.4	0.7	0.5	4.3	0.8	2.2	0.9	3.8
Gujarat	2.1	3.5	4.6	9.9	3.6	5.3	0.6	1.1	0.3	1.1
Haryana	1.3	0.3	2.1	0.9	−8.4	−5.3	1.1	0.3	0.9	0.4
Himachal Pradesh	0.4	0.1	0.9	0.3	−10.7	−6.8	1.1	0.1	1.1	0.4
Jammu and Kashmir	0.2	0.8	0.4	1.4	10.0	9.3	0.3	0.4	0.3	0.5
Jharkhand	0.4	4.5	1.2	8.7	18.4	13.9	0.7	5.2	1.3	5.7
Karnataka	3.0	3.5	8.9	6.4	1.0	−2.2	1.0	1.2	1.4	0.8
Kerala	11.3	9.4	16.6	17.2	−1.2	0.2	3.5	3.9	2.5	2.8
Lakshadweep	0.0	0.0	0.1	0.1	0.4	−1.2	6.1	4.8	5.1	5.2
Madhya Pradesh	2.3	0.5	5.0	1.5	−9.7	−7.7	0.7	0.2	0.9	0.4
Maharashtra	5.6	10.3	15.9	20.2	4.1	1.6	0.9	1.9	1.1	1.2
Manipur	0.2	0.1	0.7	0.2	−6.4	−7.0	1.2	0.0	1.9	0.1
Meghalaya	0.2	0.0	0.5	0.1	−14.0	−9.2	3.6	0.1	3.2	0.4
Mizoram	0.3	0.1	0.4	0.2	−7.1	−5.1	9.6	1.1	5.6	1.0
Nagaland	0.1	0.1	0.2	0.1	−2.7	−3.7	3.3	0.3	3.4	0.3
Odisha	1.2	2.3	3.5	9.7	4.7	6.9	0.6	0.4	1.0	1.0
Puducherry	0.2	0.1	0.6	0.3	−4.6	−5.1	2.7	1.8	1.5	0.8
Punjab	2.4	0.4	3.8	1.4	−11.2	−6.3	1.8	0.3	1.5	0.6
Rajasthan	2.2	1.4	4.6	3.2	−3.0	−2.5	0.7	0.3	0.8	0.3
Sikkim	0.0	0.0	0.1	0.0	−7.1	−2.8	2.4	0.4	1.7	0.7
Tamil Nadu	6.4	18.7	14.0	43.5	7.4	7.9	1.4	3.1	1.2	2.7
Telangana	1.7	1.0	4.3	3.4	−3.7	−1.5	0.5	0.4	0.5	0.3
Tripura	0.1	0.1	0.5	0.2	−2.8	−5.0	0.7	0.2	1.5	0.4
Uttar Pradesh	1.7	1.7	3.4	4.1	−0.2	1.2	0.3	0.1	0.2	0.2
Uttarakhand	0.3	0.1	0.6	0.2	−10.3	−5.4	0.8	0.1	0.9	0.3
West Bengal	5.6	5.9	20.8	12.7	0.4	−3.3	0.8	0.5	1.2	0.5
Total	60.2	79.7	141.3	175.1	1.9	1.4	1.0	1.0	1.0	1.0

Note: CAGR = Compound annual growth rate; LQ = Location quotient.

Source: Computed using data from MoSPI (1998, 2016).

In 1998, among the top 10 districts (including Delhi as a state), Kerala and West Bengal had three districts each. From Kerala, Ernakulum, Kannur, and Thiruvananthapuram ranked 6th, 8th, and 9th, respectively, while from West Bengal, Kolkata, Hugli, and Medinipur ranked 4th, 5th, and 7th, respectively. The 10th position was occupied by Chennai. However, in 2013–14, Purbi Champaran, Aurangabad, and Kendrapara ranked 1st, 2nd, and 3rd, respectively. From Kerala, we had Kannur and Thiruvananthapuram ranking as 8th and 9th, but none of the districts from West Bengal could find a place in the top 10 districts. This shows that in recent years the emphasis on cultural sites has changed in West Bengal. Purbi Champaran and Aurangabad have been known for Buddhist cultural sites, and the demand for these places grew in early 2000s which has pulled upward the ranking of these districts.

4.4.3 Performing arts

The tradition of performing arts in India is very old (Wade 1983). The Indian *raga* system is known for its coherence and melodies (see Bandoypadhyaya 1970). Performing arts are also mixed up with religion (Massey and Massey 1996) and regional cultural systems. Deity and gods have been prayed to in songs, music, dance, etc. The regional cultural festivals have also been associated with various performing arts like circus, theatre, drama, nautanki (a type of musical drama), etc. *Bhajan* (devotional songs, solo or duet), *Kirtan* (a group song to deity or chant), and dances have been an integral part of Hindu religious places, whereas Muslim shrines are known for Sufi music and *qawwalis* (is sung in group and narrates a legend or spiritual idea). Music and dance are considered as one of the methods of salvation. Bharat Natyam and Kathakali (Wade 1983) are religious for Hindus as is whirling dance of Sufis for Muslims.

Music is not only performed and played at religious places, but they are an integral part of everyday life and celebrations. India has also produced eminent musicians in various traditions of songs and music and some of them are Amjad Ali Khan (Sarod Player), Subbulakshmi (vocalist), Vinay Bharat Ram (singer), Vilayat Khan (sitar player), Bismillah Khan (shehnai player), Vishwanathan (flute player), Zakir Hussein (table player), Balachender (veena player), Nazakat Ali Khan (vocalist), Pandit Ravi Shankar (sitar player), and Begum Parveen Sultana (classical singer).

Bollywood is known for its music and songs, and it had luminaries like Mukesh Kumar (singer), Mohammad Rafi (singer), Talat Mahmood (singer), Lata Mangeshkar (singer), Asha Bhosle (singer), Suraiya (singer), Kishore Kumar (singer), Mahendra Kapoor (singer), again to name a few. The regional varieties emerging from folk songs and tradition are also amazing. Peculiarities of music and songs in India are that they not only have several streams or traditions but are also syncretized through of mixing of various religious and cultural traditions (Wade 1983).

Each region of India has its own specific music, theatre, circus, and dance. There are specific *gharanas* (houses or families which continue the tradition of performing arts in those regions). Distinguished individuals have emerged in performing arts from those *gharanas*. For instance, Kirana Gharana of north India produced prominent classical musicians like Abdul Karim Khan and Abdul Wahid Khan, while Agra gharana produced Vilayat Ali Khan, Faiyaz Ali Khan, Nathan Khan, and M.R. Gautam (Wade 1983). The regional specific dances in India are Bharat Natyam from Tamil Nadu, Kuchipudi from Andhra Pradesh, Kathakali and Mohiniyattam from Kerala, Kathak from Uttar Pradesh, Odissi from Odisha, Bhangra and Jhumar from Punjab, Manipuri from Manipur, Garba from Gujarat, Rouf from Kashmir, Ghoomar from Rajasthan, Chhau from Mayurbhanj of Orissa, Bihu and Sattriya from Assam, Lavani from Maharashtra, to mention a few. There are many other forms of dances and music in most of the states of India, but due to lack of spaces we are not able to mention them here.

The data relating to workers, establishments, growth rate, and location quotients of workers related to performing arts are produced in Table 4.6. The prominent states in terms of size of workers in India in 2013–14 were Uttar Pradesh, West Bengal, Telangana, Tamil Nadu, Rajasthan Maharashtra, Odisha, and Andhra Pradesh. Most of these states have also experienced a very high growth rate of workers in performing arts, and in most of the cases, the growth rate has been above 30% per annum. At the all-India level, the growth rate of workers in this sector was 23% while the increase in establishments was about 27%. This shows that the number of small enterprises (with lower number of workers) is growing faster. However, in 2013–14, in terms of relative concentration of workers, Lakshadweep, Goa, and Daman and Diu stand out with location coefficients of 11.2, 6.0, and 5.2, respectively. This shows that in this sector they specialize. However, district-level analysis shows that there is only one primary cluster of performing art in India, that is, the Mumbai-Pune region (Figure 4.5). Pune had the highest number of workers (total 8,748) in performing art in 2013–14 and was followed by Mumbai Suburban (7,764 workers), and Thane (5,477). There are several secondary clusters, which include the south and central Gujarat (from Surat to Ahmedabad), Delhi and its neighbouring districts, central and western Punjab, Kolkata region, Hyderabad region, and Kerala.

4.4.4 Visual arts

Given its varied culture, India is also very rich in painting traditions, sculptures, antiques, and added to this are the technology-enabled photography. Each of regions of the country are having their own types of painting traditions and sculptures. The visual arts market in India was estimated to be INR 13.5 billion in 2013 and INR 14.6 billion in 2017 (KPMG-FICCI 2018: 1). However, India still in general lacks the appreciation of visual arts: the art and artists are not given

Table 4.6 Growth of performing arts enterprises, worker, and location quotient by states, 1998 and 2013–14

States	*Enterprises (000)*		*Workers (000)*		*CAGR (%)*		*LQ for workers*	
	1998	*2013–14*	*1998*	*2013–14*	*Enterprises*	*Workers*	*1998*	*2013–14*
Andaman and Nicobar Islands	0.0	0.0	0.0	0.0	–	–	0	0.5
Andhra Pradesh	0.2	6.4	0.3	13.9	28.4	28.9	0.5	1.0
Arunachal Pradesh	0.0	0.1	0.0	0.2	35.5	44.3	0.1	2.8
Assam	0.0	5.1	0.3	10.9	37.1	28.2	1.2	1.1
Bihar	0.1	3.9	0.1	7.4	31.1	32.2	0.4	1.6
Chandigarh	0.0	0.3	0.0	0.6	45.1	45.8	0.1	0.6
Chhattisgarh	0.0	1.5	0.0	3.2	33.6	36.6	0.2	1.3
Dadra and Nagar Haveli	0.0	0.0	0.0	0.1	–	–	0.0	2.5
Daman and Diu	0.0	0.0	0.0	0.1	–	–	0.0	5.3
Delhi	0.5	2.6	2.4	9.0	11.4	9.2	2.9	2.1
Goa	0.0	0.7	0.0	1.8	26.3	28.4	1.2	6.0
Gujarat	0.1	7.3	0.1	19.4	38.9	39.1	0.1	1.3
Haryana	0.0	2.3	0.0	4.7	33.1	37.5	0.2	1.3
Himachal Pradesh	0.0	0.8	0.0	1.3	33.5	29.8	0.3	1.1
Jammu and Kashmir	0.0	0.8	0.0	1.6	32.5	34.2	0.2	0.3
Jharkhand	0.0	0.8	0.1	2.0	26.8	26.0	0.7	0.8
Karnataka	0.3	0.9	0.8	2.8	7.8	8.4	1.4	0.2
Kerala	0.1	5.6	0.2	13.0	31.9	30.2	0.4	1.3
Lakshadweep	0.0	0.0	0.0	0.2	–	–	0.0	11.2
Madhya Pradesh	0.1	5.6	0.3	14.0	29.7	29.1	0.6	2.1
Maharashtra	0.4	16.4	1.5	46.8	28.7	25.7	1.1	1.6
Manipur	0.0	0.7	0.3	1.3	24.7	9.4	9.6	0.4
Meghalaya	0.0	0.1	0.0	0.2	35.7	32.2	0.2	0.4
Mizoram	0.0	0.0	0.0	0.1	16.4	13.1	2.0	0.3
Nagaland	0.0	0.1	0.0	0.1	18.2	19.3	1.4	0.2
Odisha	0.1	4.9	0.3	13.7	29.2	28.1	1.0	0.9
Puducherry	0.0	0.2	0.0	0.6	32.1	29.3	0.3	1.0
Punjab	0.1	6.2	0.2	11.9	31.2	29.7	1.0	3.0
Rajasthan	0.1	7.6	0.2	20.8	34.5	37.0	0.3	1.4
Sikkim	0.0	0.0	0.0	0.1	–	–	0.0	0.5
Tamil Nadu	0.2	8.2	0.8	20.1	26.7	24.3	0.7	0.8
Telangana	0.1	5.1	2.3	18.9	28.1	14.9	3.2	1.0
Tripura	0.0	0.5	0.0	0.7	23.6	22.2	1.1	0.7
Uttar Pradesh	0.2	10.6	0.4	27.2	31.1	33.4	0.3	0.7
Uttarakhand	0.0	0.6	0.1	1.7	27.8	24.8	1.0	1.2
West Bengal	0.5	9.0	2.0	20.9	21.2	17.1	1.2	0.5
Total	3.2	114.9	13.0	291.5	26.9	23.0	1.0	1.0

Note: CAGR = Compound annual growth rate; LQ = Location quotient.

Source: Computed using data from MoSPI (1998, 2016).

the importance as we find in the Western countries, Japan, China, Brazil, and wealthier Arab States. However, in recent years, its importance in the middle class is growing. There are several art galleries which attempt to exhibit the

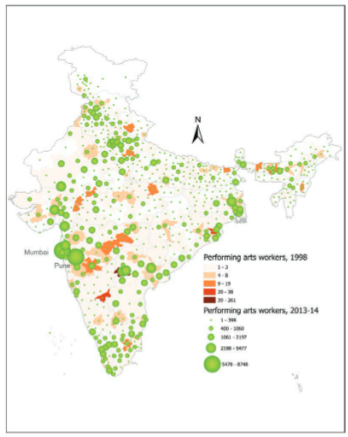

Figure 4.5 Distribution of workers in performing arts by district, 1998 and 2013–14
Source: Computed using data from MoSPI (1998, 2016).

creations of the artists at national and international levels. Some of such galleries are "Vadehra Art Gallery (New Delhi), Nature Morte (New Delhi), Gallery Chemould (Mumbai), Chatterjee & Lal (Mumbai), DAG Modern (New Delhi), Espace Gallery (New Delhi), Experimenter (Kolkata), Lakeeren Art Gallery (Mumbai) amongst others" (KPMG-FICCI 2018: 4). In European countries (such as France), most of the cities have developed their own museum to showcase their heritages. However, India despite being culturally rich, lacks this tradition. The museums are located mainly in metropolitan areas while medium and smaller cities almost have none. Some of the major museums in India which attempt to showcase regional fine arts or national heritage are the "National Gallery of Modern Art (New Delhi, Mumbai, and Bengaluru), Dr. Bhau Daji Lad Museum (Mumbai), and Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (Mumbai)" (KPMG-FICCI 2018: 4). Commercialization of visual arts are also very limited and confined to largely higher class. A majority of the painters, sculptures, and photographers, and so in other related activities of visual arts, live mainly at subsistence level as the market of these arts are not developed. Only a few companies or houses of auctions exist and some of these are Saffronart, Sotheby's, Pundole's, AstaGuru, and Bonhams (KPMG-FICCI 2018: 5). Some non-commercial platforms have also emerged to support artists and popularize

visual arts. KHOJ, an international artist association, and Foundation for Indian Contemporary Art (FICA) are such non-commercial platforms.

The visual art is mainly represented by photographic activities for both the reference years while painting and other aspects of it are merged with other NICs of creative sectors (see Chapter 3 for details). However, photographic activities are the major sub-sector in this sector. We can draw the following observations from the data presented in Table 4.7 and Figure 4.6. First, the visual art workers in almost all the states and union territories, except in Delhi, Nagaland, and Arunachal Pradesh, have shown significant growth between

Table 4.7 Growth of visual arts enterprises, workers, and location quotient by states, 1998 and 2013–14

States	*Enterprises (000)*		*Workers (000)*		*CAGR (%)*		*LQ for workers*	
	1998	*2013–14*	*1998*	*2013–14*	*Enterprises*	*Workers*	*1998*	*2013–14*
Andaman and Nicobar Islands	0.0	0.1	0.1	0.2	4.8	3.3	1.8	2.4
Andhra Pradesh	4.5	11.2	7.9	20.6	6.3	6.6	1.1	1.3
Arunachal Pradesh	0.1	0.1	0.2	0.1	−2.5	−3.8	1.9	1.0
Assam	1.5	3.4	2.8	5.1	5.8	4.0	1.0	0.5
Bihar	2.0	3.8	3.8	5.9	4.4	3.1	1.1	1.1
Chandigarh	0.3	0.4	0.6	0.8	2.6	1.9	1.4	0.7
Chhattisgarh	1.3	2.3	2.1	3.6	4.0	3.7	1.2	1.2
Dadra and Nagar Haveli	0.0	0.0	0.0	0.1	12.4	11.6	0.5	1.9
Daman and Diu	0.0	0.1	0.0	0.1	12.9	13.8	0.6	3.2
Delhi	10.8	3.7	16.8	7.9	−6.9	−5.0	1.6	1.6
Goa	0.1	0.3	0.2	0.6	6.3	5.8	0.5	1.6
Gujarat	4.2	11.0	6.9	19.0	6.6	6.9	0.4	1.1
Haryana	3.3	6.8	4.4	10.4	5.0	5.9	1.7	2.4
Himachal Pradesh	1.2	3.0	1.6	3.5	6.0	5.4	1.7	2.6
Jammu and Kashmir	0.5	2.1	0.8	3.0	9.5	9.2	0.5	0.5
Jharkhand	0.8	2.3	1.4	4.0	7.3	7.3	1.2	1.3
Karnataka	3.6	12.3	7.3	22.1	8.4	7.6	1.0	1.4
Kerala	5.2	11.9	10.0	21.9	5.7	5.4	1.3	1.8
Lakshadweep	0.0	0.0	0.0	0.0	7.6	11.8	0.4	1.6
Madhya Pradesh	4.5	7.7	6.7	12.4	3.7	4.1	1.0	1.6
Maharashtra	9.1	22.9	16.9	36.6	6.3	5.3	1.0	1.1
Manipur	0.3	0.2	0.5	0.5	0.0	−0.5	1.2	0.1
Meghalaya	0.1	0.2	0.3	0.4	4.0	2.8	1.6	0.8
Mizoram	0.1	0.1	0.1	0.2	2.7	4.7	1.0	0.5
Nagaland	0.2	0.2	0.5	0.3	−0.4	−3.6	5.1	0.4
Odisha	2.0	5.9	3.4	9.0	7.4	6.6	0.9	0.5
Puducherry	0.2	0.5	0.3	0.9	7.7	6.7	0.7	1.4
Punjab	5.7	11.5	8.8	17.7	4.8	4.8	2.8	3.8
Rajasthan	5.7	13.3	8.6	19.8	5.8	5.7	1.2	1.1
Sikkim	0.0	0.0	0.1	0.1	3.3	2.1	1.2	0.6
Tamil Nadu	4.7	15.5	11.3	31.4	8.4	7.0	0.9	1.0
Telangana	3.5	10.2	9.2	24.8	7.4	6.8	1.0	1.1

Tripura	0.3	0.7	0.5	0.9	5.4	3.7	1.4	0.8
Uttar Pradesh	10.5	20.1	16.5	30.4	4.5	4.2	1.0	0.6
Uttarakhand	1.3	2.7	1.8	3.8	5.3	5.0	2.4	2.4
West Bengal	5.9	11.5	12.1	20.2	4.6	3.5	0.6	0.4
Total	93.1	197.9	164.6	337.9	5.2	4.9	1.0	1.0

Note: CAGR = Compound annual growth rate; LQ = Location quotient.

Source: Computed using data from MoSPI (1998, 2016).

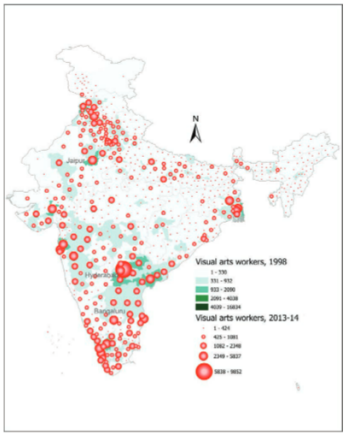

Figure 4.6 Distribution of workers engaged in visual arts by district, 1998 and 2013–14

Source: Computed using data from MoSPI (1998, 2016).

1998 and 2013–14. However, the highest growth rate is seen in smaller states like Dadra and Nagar Haveli and Daman and Diu. Southern states like Karnataka, Tamil Nadu, Telangana, and Andhra Pradesh have also shown relatively higher growth in comparison to other major states in the country. Second, the southern (Karnataka, Kerala, Telangana, Andhra Pradesh, and Tamil Nadu) and western states of India (Maharashtra and Gujarat) and northern-western states (Punjab, Haryana and Rajasthan) have a relatively higher concentration of visual art workers, which makes their location quotient also higher. Third, one finds five major broad regional clusters of visual art workers in 2013–14 and these are (a) Kerala, Tamil Nadu, and Southern Karnataka, (b) Hyderabad region, (c) Mumbai-Ahmedabad belt, (d) Agra-Jaipur-Amritsar region, and

(e) southern Bengal. However, Hyderabad in 2013–14 ranked first in terms of number of workers (9,852 workers) and was followed by Bengaluru (5,837), North 24 Parganas (4,922), Chennai (4,187), Rangareddy (3,918), Mumbai Suburban (3,887), and Pune (3,480).

4.4.5 Audio-visual

Film, television, radio, and other broadcasting constitute the audio-visual sector. This is one of the very potential creative sectors of India and has also shown very high growth rate in recent years. As per the KPMG (2013a), the year-on-year growth rate in 2013 of films was 11.5% (with total value of INR 125.3 billion in 2013), television 12.7% (INR 417.2 billion), animation, visual effects (VFX), and gaming 16.4% (INR 58.9 billion), radio 15.0% (INR 14.6 billion), and music showing downward trend −9.6% (INR 9.6 billion). KPMG (2013a) also estimated the employment in each of the sectors in 2013 as 0.14 million in television (likely to rise to 0.28 in 2017 and 0.64 in 2022), 0.02 million in radio (likely to rise to 0.07 in 2017 and 0.13 in 2022), 0.02 million in animation, VFX, and games (likely to rise to 0.03 in 2017 and 0.04 in 2022), and 0.16 million in films (likely to rise to 0.24 in 2017 and 0.44 in 2022). KPMG (2020) estimated the compound annual growth rate of the monetary size of television sector between the financial year (1 April to 31 March) 2016–2020 as 9% (with total value of INR 778 billion in 2020), films 0% (INR 183 billion in 2020), animation, VFX, and gaming 15% (INR 101 billion in 2020), radio −11% (INR 25 billion in 2020), and music 15% (INR 19 billion in 2020). In 2020 report, KPMG (2020) also included digital and OTT platform which showed annual growth rate between the same years of 26% (with total size of INR 218 billion in 2020). However, some of these gross estimates, especially of employment, do not correspond with the Economic Census 2013–14 data used in this chapter.

India is one of the major producers of films in the world (see Chapter 10) and what we call Bollywood is mainly the Hindi cinema industry located in Mumbai and Mumbai Suburban districts. In 2013–14, Mumbai Suburban (with 8,183 workers) ranked first in terms of the number of workers in this sector in the country, while Mumbai district ranked 5th with 3,956 workers (Greater Mumbai was bifurcated in Mumbai and Mumbai-Suburban districts and for 2013–14 the data are available for both the districts separately).

The Telugu cinema is another major film industry located in Hyderabad (the district ranked 2nd in terms of the number of audio-visual workers in the country), while Kolkata (ranked third in terms of the number of workers) is known for the production of Bengali cinema. Ernakulam (ranked 6th with 2,544 workers in this sector) is a centre of the Malayalam film industry, while Chennai is the centre of Tamil cinema. This is why we find that these districts are the centres of concentrations of audio-visual industry workers (Figure 4.7). These are also the districts where television industries and radio, broadcasting

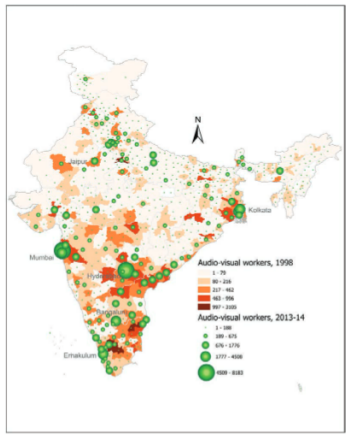

Figure 4.7 Distribution of workers engaged in audio-visual industries by district, 1998 and 2013–14

Source: Computed using data from MoSPI (1998, 2016).

regional and national news and entertainment programmes, are located. Besides these, other major centres of the television industry are Noida and New Delhi, Jaipur, Guwahati, and Lucknow. Overall, the southern and western states of India have the major share of total workers in this sector (Table 4.8).

4.4.6 Publishing and print media

Books, press, and other publications constitute publishing and other print media. As one can imagine, the rise of ICT has severely impacted this sector. The sector has become more online and paper publishing has diminished (see KPMG 2020). Additionally, the publishing activities are shifted to other countries as the contents can be sent online easily to other destinations. For instance, many books publishing companies in India, including Routledge and Springer, publish the majority of books and contents from other countries rather than India. Springer largely publishes Indian-authored books from Singapore or European countries while Routledge does it from London and New York. However, Chennai has emerged as major centre for content editing and typesetting for several publishers including Springer.

Table 4.8 Growth of audio-visual enterprises, worker, and location quotient by states, 1998 and 2013–14

States	*Enterprises (000)*		*Workers (000)*		*CAGR (%)*		*LQ for workers*	
	1998	*2013–14*	*1998*	*2013–14*	*Enterprises*	*Workers*	*1998*	*2013–14*
Andaman and Nicobar Islands	0.0	0.0	0.0	0.2	11.3	16.4	0.6	5.7
Andhra Pradesh	1.6	3.7	4.1	10.7	5.8	6.6	1.3	1.8
Arunachal Pradesh	0.0	0.0	0.3	0.2	1.5	−4.7	8.6	4.5
Assam	0.3	0.4	1.0	2.4	2.8	5.7	0.9	0.6
Bihar	0.4	1.4	2.2	3.4	9.2	2.8	1.5	1.8
Chandigarh	0.0	0.0	0.2	0.6	3.5	8.7	0.9	1.5
Chhattisgarh	0.2	0.4	0.6	1.3	5.8	5.6	0.8	1.2
Dadra and Nagar Haveli	0.0	0.0	0.1	0.1	−1.6	−6.4	14.1	4.1
Daman and Diu	0.0	0.0	0.0	0.0	7.6	7.8	1.1	3.2
Delhi	0.2	1.1	3.1	3.4	12.9	0.6	0.7	1.9
Goa	0.1	0.0	0.2	0.0	−11.8	−10.8	0.8	0.2
Gujarat	0.7	1.4	2.4	4.0	4.7	3.4	0.3	0.6
Haryana	0.6	0.6	1.2	2.0	0.7	3.3	1.1	1.3
Himachal Pradesh	0.1	0.1	0.6	0.4	0.9	−2.3	1.6	0.9
Jammu and Kashmir	0.2	0.3	0.4	0.7	4.6	4.1	0.6	0.4
Jharkhand	0.2	0.8	0.8	1.6	10.0	4.7	1.7	1.5
Karnataka	1.3	1.1	4.5	6.6	−1.2	2.5	1.4	1.2
Kerala	1.1	1.9	3.3	8.8	3.4	6.8	1.0	2.1
Lakshadweep	0.0	0.0	0.0	0.0	0.0	−0.3	4.2	3.5
Madhya Pradesh	1.1	1.6	2.7	4.2	2.8	3.1	0.9	1.5
Maharashtra	1.7	3.0	7.9	18.4	3.7	5.8	1.1	1.6
Manipur	0.0	0.1	0.2	0.3	10.8	2.4	1.3	0.2
Meghalaya	0.0	0.0	0.3	0.1	0.7	−6.5	4.9	0.7
Mizoram	0.0	0.1	0.2	0.2	7.0	1.5	5.5	1.9
Nagaland	0.0	0.0	0.0	0.1	13.9	9.7	0.5	0.3
Odisha	0.7	0.9	2.8	2.4	1.7	−0.9	1.6	0.4
Puducherry	0.1	0.2	0.3	0.7	2.0	6.1	1.5	3.2
Punjab	0.6	0.9	1.8	2.2	3.2	1.4	1.3	1.3
Rajasthan	0.6	1.2	1.9	3.2	4.4	3.6	0.6	0.5
Sikkim	0.0	0.0	0.1	0.3	6.8	6.9	4.9	6.0
Tamil Nadu	5.1	2.0	12.5	8.0	−5.9	−2.9	2.3	0.7
Telangana	0.8	2.0	3.3	12.0	6.0	9.0	0.8	1.5
Tripura	0.0	0.0	0.3	0.2	−3.2	−2.3	1.7	0.4
Uttar Pradesh	1.1	3.4	5.0	8.9	7.9	3.9	0.7	0.5
Uttarakhand	0.1	0.2	0.5	0.7	3.3	2.3	1.6	1.3
West Bengal	0.9	3.4	4.5	12.0	9.2	6.7	0.5	0.7
Total	19.8	32.3	69.4	120.4	3.3	3.7	1.0	1.0

Note: CAGR = Compound annual growth rate; LQ = Location quotient.

Source: Computed using data from MoSPI (1998, 2016).

Additionally, the usual pamphlet printing often used for intimation, celebration, and in festivals have shifted to online where individuals themselves are designing and publishing the same. This again negatively impacts this sector in terms of its organized growth. As per KPMG (2020), the revenue of print subsector at current prices was of INR 288 billion which increased to INR

333 billion, with a compound annual growth rate of 2%. In fact, during the financial year 2019–2020, the growth has been negative, −8%.

There is a decline in the publishing and print media sector across the states in the country (Table 4.9). The most substantial decline of this sector between 1998 and 2013–13 has been in Delhi, which was major hub for publishing and printing. The sector also declined in southern states like Telangana, Karnataka, Kerala, Tamil Nadu, and Andhra Pradesh.

Second, in terms of the concentration of industry, the district-level mapping shows that the industry is very much clustered. The primary clusters of the publishing and print media are (a) Jaipur and (b) Hyderabad, while there are several secondary clusters, and some of them are (a) Noida (including adjoining districts of Delhi), (b) Mumbai, Mumbai Suburban, and Thane, (c) Kolkata, (d) Patna, (e) Bengaluru, (f) Puducherry, (g) Coimbatore, (h) Amritsar, and (i) Chennai (see Figure 4.8). There are also tertiary nodes of concentration of workers of these sectors more visible in Tamil Nadu and Southern Karnataka, and in western Uttar Pradesh, Haryana, and Punjab. In 1998, the first ranked district in terms of the number of workers in this sector was Mumbai (26,173 workers) and was followed by Kolkata (20,657), Bengaluru (12,038), and Chennai (10,798). In 2013–14,

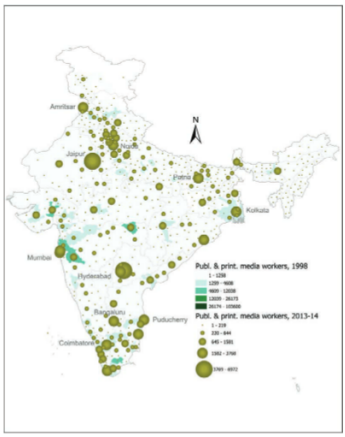

Figure 4.8 Distribution of workers engaged in publishing and print media by district, 1998 and 2013–14

Source: Computed using data from MoSPI (1998, 2016).

Table 4.9 Growth of publishing and printing enterprises, worker, and location quotient by states, 1998 and 2013–14

States	*Enterprises (000)*		*Workers (000)*		*CAGR (%)*		*LQ enterprises*		*LQ for workers*	
	1998	*2013–14*	*1998*	*2013–14*	*Enterprises*	*Workers*	*1998*	*2013–14*	*1998*	*2013–14*
Andaman and Nicobar Islands	0.0	0.0	0.2	0.1	−4.5	−7.5	1.4	2.5	1.1	1.9
Andhra Pradesh	3.2	1.6	11.6	5.7	−4.6	−4.6	0.5	0.6	0.6	0.8
Arunachal Pradesh	0.0	0.0	0.1	0.1	3.5	−0.8	0.5	3.7	0.5	2.8
Assam	1.5	0.5	8.2	2.3	−7.4	−8.2	1.2	0.3	1.1	0.5
Bihar	1.4	2.8	4.9	6.6	4.6	2.0	0.5	3.2	0.5	3.0
Chandigarh	0.3	0.1	3.8	0.6	−10.4	−11.6	2.4	2.0	3.1	1.3
Chhattisgarh	1.1	0.7	5.2	2.8	−3.2	−4.0	0.8	1.5	1.1	2.2
Dadra and Nagar Haveli	0.0	0.0	0.2	0.0	1.3	−12.1	1.4	2.5	2.9	1.9
Daman and Diu	0.0	0.0	0.2	0.0	−11.3	−15.5	1.7	0.9	2.7	1.1
Delhi	10.9	0.3	103.6	2.2	−21.0	−22.5	3.3	0.9	3.5	1.1
Goa	0.3	0.0	1.7	0.2	−16.0	−13.6	1.0	0.5	1.3	1.3
Gujarat	5.2	1.8	22.3	5.8	−6.7	−8.6	1.0	1.1	0.5	0.8
Haryana	1.4	2.1	6.5	4.4	2.8	−2.6	0.7	4.1	0.9	2.5
Himachal Pradesh	0.3	0.1	3.7	0.6	−5.7	−11.8	0.5	0.5	1.4	1.0
Jammu and Kashmir	0.2	0.3	0.5	1.3	2.9	6.8	0.2	0.4	0.1	0.6
Jharkhand	0.3	1.3	1.2	3.2	10.2	6.6	0.4	2.9	0.4	2.6
Karnataka	6.4	1.4	23.6	6.6	−9.4	−8.2	1.5	1.0	1.1	1.0
Kerala	6.6	1.6	28.4	7.7	−9.1	−8.4	1.3	1.3	1.3	1.5
Lakshadweep	0.0	0.0	0.1	0.0	−11.3	−26.7	1.4	0.5	2.6	0.1
Madhya Pradesh	4.0	1.7	17.2	5.0	−5.6	−7.9	0.8	1.5	0.9	1.5
Maharashtra	11.9	3.0	60.1	13.9	−8.8	−9.3	1.3	1.1	1.3	1.0

Manipur	0.2	0.1	1.2	0.3	−6.7	−8.2	0.7	0.1	1.0	0.2
Meghalaya	0.1	0.0	0.6	0.2	−1.8	−8.7	0.9	0.7	1.3	0.7
Mizoram	0.1	0.1	0.7	0.2	−4.8	−7.6	2.6	1.4	3.0	1.5
Nagaland	0.1	0.0	0.3	0.1	−5.0	−8.8	1.2	0.3	1.2	0.2
Odisha	1.4	1.4	5.2	4.2	−0.3	−1.4	0.4	0.5	0.5	0.5
Puducherry	0.3	0.1	1.8	2.5	−7.9	2.3	2.5	3.0	1.4	9.6
Punjab	2.2	1.3	6.7	4.2	−3.5	−3.2	1.0	2.0	0.8	2.2
Rajasthan	2.7	4.1	8.2	11.8	2.9	2.5	0.5	1.6	0.4	1.6
Sikkim	0.0	0.0	0.0	0.2	–	–	0.0	1.7	0.0	3.3
Tamil Nadu	9.7	3.9	44.5	13.1	−6.0	−7.8	1.4	1.3	1.2	1.0
Telangana	2.7	2.1	13.4	11.4	−1.7	−1.1	0.5	1.9	0.5	1.2
Tripura	0.2	0.0	1.1	0.0	−20.2	−25.3	0.7	0.0	1.1	0.0
Uttar Pradesh	7.1	4.4	32.6	15.2	−3.1	−5.0	0.8	0.8	0.7	0.8
Uttarakhand	0.5	0.4	1.8	1.7	−1.4	−0.3	0.8	1.8	0.8	2.6
West Bengal	10.9	2.4	43.9	7.1	−9.6	−11.4	1.0	0.4	0.8	0.4
Total	93.4	39.6	465.5	141.3	−5.5	−7.6	1.0	1.0	1.0	1.0

Note: CAGR = Compound annual growth rate; LQ = Location quotient.

Source: Computed using data from MoSPI (1998, 2016).

Hyderabad ranked first but with only 6,972 workers in this sector. Hyderabad was followed by Jaipur (4,972 workers), Mumbai (3,768), Noida, that is Gautam Buddha Nagar, (3,022), and Rangareddy (2,918).

4.4.7 New media

Constituents of new media are software, video games, and digitized creative content. In the new media sector, India has made significant progress since the 1990s. Because of its large share of English-speaking technical manpower, next to the USA, India in the 1990s and 2010s got bulk of the global subcontracting in IT and IT-enabled services (ITES) (Hung 2009). Some of its cities alike Bengaluru, Hyderabad, Kancheepuram, Pune, and Noida are known for the clustering of software and ITES, while many other cities like Mumbai, Delhi, Kolkata, Ahmedabad, and Jaipur have their new initiatives to attract the software industry and related knowledge industries. Bengaluru (formerly known as Bangalore) was one of the first Indian cities to get prominence of the location of software industries in the city in the 1990s and now it has several of its competitors such as Hyderabad, Noida, and Pune. "The ITES/BPO industry has taken root in most of India's leading cities, including NCR, Mumbai, Bengaluru, Chennai, Kolkata, Hyderabad, Kochi, Ahmedabad, and Pune" (Hung 2009: 32). Naidu (2003) argues that research investment carried out over time in industries and defence was the prime reason for Bengaluru emerging as an IT hub in India. In a similar vein, D'Costa argues:

> Through a series of interrelated investments, the government of India unwittingly created the modern technological hub of Bangalore. For example, since 1954 Bangalore has been the headquarters for the Indian Air Force, while the Ministry of Defense established Bharat Electronics Limited in the city. Other technology-related public sector enterprises were established such as the Indian Telephone Industries, Hindustan Aeronautics, and various R&D centers. The establishment of the Department of Electronics in 1970, rechristened the Department of Information Technology (DIT), has been instrumental in providing a state-supported technical infrastructure supporting the Indian IT industry. For example, the National Informatics Center, Computer Maintenance Corporation (CMC), the National Center for Software Development and Computing Technology, and regional computer centers were established.
>
> (D'Costa 2009: 633–635)

Another reason for the location of the software and knowledge industry mainly in the southern and western states of the country has been the growth of technological education institutions in these states initially in the 1950s and 1960s. The southern states of India like Karnataka, Andhra Pradesh, and Tamil Nadu had an advantage over other states. By 1961, out of 2,428 technological

institutions in the country, about half were in these southern states (D'Costa 2009), in which Bengaluru, Hyderabad, Chennai, and other neighbouring cities had major concentrations.

Hyderabad started growing in the early 1990s when then Chief Minister of undivided Andhra Pradesh, Chandrababu Naidu, imagined making Hyderabad *Cyberabad (a digital city)*, and as a result of his initiatives and investments, there was a rapid growth of software industries in the city and export revenue rose from less than the US$1 million in 1992 to the US$250 million in 1999–2000, and employment in the industry during the same period grew from 12,000 to 23,000 (Biswas 2004: 824). However, in relation to Bengaluru, Hyderabad is considered having industries lower in value chain (i.e., the products are not as higher in value added term as in Bangalore).

Kancheepuram, though not recognized commonly in literature on software industry, has made rapid progress in terms of number of workers in this sector. Introducing the district of Kancheepuram, the Government of India (2013) writes:

> The district is also known for the numerous electronic and software enterprises in the IT corridor, giant car manufactures like Ford, Hyundai, BMW and Nissan, telecommunication multinationals like Nokia and Flextronics and the famous glass manufacturer Saint Gobain Glass.
>
> (p. 1)

Kancheepuram has several industrial estates hosting a number of software companies and some of these estates in 2013 were Dr Vikram Sarabhai Industrial Estate, SIPCOT IT Complex, and Mahindra Industrial Park (Special Economic Zone). The district also had 245 large firms, and one of the major export items was software (Government of India 2013: 26). The Chennai OMR software cluster in 2012–13 itself had 1,000 enterprises, 75,000 employees, and export of products and processes of about INR 7.5 billion (Government of India 2013). This shows that Kancheepuram, though with a low-value chain industry in the IT sector, is one of the rising districts in the software industry.

Pune has emerged as another hub of software and ITES. Almost all the major industries are located in the city. The city has several IT parks. The Rajeev Gandhi IT Park (special economic zone) was built by a government investment of INR 1.55 billion, and in the year 2011–12 employed about 0.15 million persons, and export was of about the US$10 billion, 60% of Maharashtra's total IT export (Kulkarni 2012). This initial financial stimulus by the Government led to the investment by other major companies in the city of about INR 60 billion in this sector till that year (Kulkarni 2012).

Mumbai is the financial capital of India and is known for locations of major national and foreign banks (Mohan 2005). Therefore, IT companies have been attracted to the city. However, higher manpower and infrastructure cost does create diseconomies of agglomeration in the city. Jaipur, Ahmedabad, Noida,

and Kolkata are other new towns that have the substantial number of workers in these industries (Figure 4.9). In fact, the new town or Rajarhat of Kolkata has attracted such industries.

Because of the reasons mentioned earlier, the southern and western states of the country have a higher number of workers engaged in the new media industry (Table 4.10), and they also have a significantly higher annual growth rate of the sector. In 1998, Hyderabad district ranked first (total workers in the new media sector, 11,838) and was followed by Bengaluru (10,406), Mumbai (6,931), Chennai (4,832), Kolkata (3,779), Pune (3,285), and Vadodara (2,111). The figures of workers are lower in the economic census reported here as they are more refined than what is reported elsewhere and cited above from other studies. The 2013–14, the top rank district in the number of new media workers was Rangareddy (a neighbouring district and extension of Hyderabad) with 174,859 workers and was followed by Kancheepuram (total workers 147,196), Pune (101,380), Hyderabad (93,986), Mumbai Suburban (77,161), and Noida (56,364). Rangareddy, Kancheepuram, and Pune had a location quotient of 5.2, 5.2, and 4.7, respectively, in 2013–14, indicating that as a district they specialize in this sector in India.

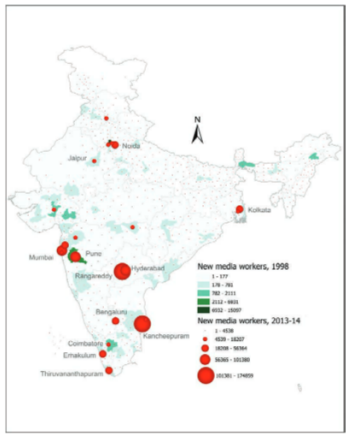

Figure 4.9 Location of workers of new media sector by districts, 1998 and 2013–14
Source: Computed using data from MoSPI (1998, 2016).

Table 4.10 Growth of new media enterprises, worker, and location quotient by states, 1998 and 2013–14

States	*Enterprises (000)*		*Workers (000)*		*CAGR (%)*		*LQ for workers*	
	1998	*2013–14*	*1998*	*2013–14*	*Enterprises*	*Workers*	*1998*	*2013–14*
Andaman and Nicobar Islands	0.0	0.0	0.0	0.1	19.8	20.9	0.2	0.5
Andhra Pradesh	0.4	3.9	1.6	10.2	16.4	13.1	0.4	0.2
Arunachal Pradesh	0.0	0.2	0.0	0.4	30.9	20.1	0.5	1.1
Assam	0.1	2.1	1.8	4.7	21.5	6.5	1.1	0.1
Bihar	0.2	3.1	0.6	5.8	18.5	16.4	0.3	0.3
Chandigarh	0.1	0.4	0.9	18.2	9.6	22.3	3.5	4.7
Chhattisgarh	0.2	1.3	0.5	3.6	13.8	14.1	0.5	0.4
Dadra and Nagar Haveli	0.0	0.0	0.0	0.1	14.9	18.7	0.6	0.9
Daman and Diu	0.0	0.0	0.0	0.2	19.4	25.9	0.4	1.5
Delhi	1.0	4.2	15.1	26.2	10.0	3.8	2.5	1.5
Goa	0.1	0.1	0.6	0.5	−1.9	−0.3	2.1	0.5
Gujarat	2.0	5.7	6.6	22.9	7.4	8.6	0.7	0.4
Haryana	0.3	2.1	0.7	16.2	14.0	23.7	0.4	1.1
Himachal Pradesh	0.1	1.0	0.2	2.3	20.7	19.8	0.3	0.5
Jammu and Kashmir	0.0	1.0	0.1	2.9	24.2	24.7	0.1	0.2
Jharkhand	0.1	1.9	0.4	6.1	23.1	20.2	0.6	0.6
Karnataka	1.5	8.0	11.5	63.3	12.0	12.1	2.6	1.2
Kerala	0.9	8.9	3.1	78.6	16.8	24.0	0.7	1.9
Lakshadweep	0.0	0.0	0.0	0.0	–	–	0.0	0.6
Madhya Pradesh	0.6	5.3	1.5	15.4	15.7	16.6	0.4	0.6
Maharashtra	2.6	17.4	13.5	242.3	13.5	21.2	1.4	2.2
Manipur	0.0	0.3	0.1	0.6	24.6	14.5	0.3	0.0
Meghalaya	0.0	0.2	0.1	0.9	21.5	17.2	0.9	0.5
Mizoram	0.0	0.0	0.1	0.1	11.1	2.8	1.0	0.1
Nagaland	0.0	0.1	0.0	0.4	–	–	0.0	0.1
Odisha	0.2	3.0	1.0	7.1	19.7	13.9	0.4	0.1
Puducherry	0.1	0.6	0.4	3.9	12.9	15.9	1.6	1.8
Punjab	0.6	2.0	1.2	6.8	8.9	12.0	0.7	0.4
Rajasthan	0.6	6.8	1.6	22.3	17.5	19.3	0.4	0.4
Sikkim	0.0	0.1	0.0	0.2	–	–	0.0	0.4
Tamil Nadu	2.4	9.8	11.3	178.4	9.8	20.2	1.5	1.7
Telangana	1.2	5.9	12.7	272.3	11.3	22.7	2.4	3.7
Tripura	0.0	0.4	0.0	0.6	31.2	21.5	0.1	0.1
Uttar Pradesh	0.7	9.0	2.8	74.4	18.4	24.4	0.3	0.5
Uttarakhand	0.1	0.8	0.3	3.4	16.7	18.5	0.6	0.6
West Bengal	0.7	10.2	5.8	52.3	19.1	15.8	0.5	0.3
Total	16.8	116.0	96.0	1143.6	13.8	18.0	1.0	1.0

Note: CAGR = Compound annual growth rate; LQ = Location quotient.

Source: Computed using data from MoSPI (1998, 2016).

4.4.8 Design

Interior, graphic, fashion, jewellery, and toys constitute the design sector of creative industries. The major constituent of the industry is gems and jewellery for which India is well known. This is one of the major export earners for India (see Chapter 5). The gem and jewellery industry had been scattered and almost every town had its own local enterprises catering for the local population. However, since the liberalization, this sub-sector of design has gone through a transformation in terms of consolidation, market orientation, and shift towards higher value-added products which includes even diamond cutting and designing. The emergence of many national and global brands has wreaked havoc on local designers and manufacturers and many are out of business as the bigger manufacturers ensure purity of products (like of gold, silver, titanium, diamond, etc.), and also have uniform price base. However, the guarantee of purity of materials has been one aspect which has attracted the customers to the brand products. Some of such brands are Tanishq (by Tata Group), Reliance Jewels (by Reliance), and Kalyan Jewellers India Ltd. However, today, India is more known not for only domestic consumption of gems and jewellery but also intermediate and final processing. Many industrial enterprises in Gujarat, Maharashtra, and Rajasthan are engaged in this. They import diamonds, precious stones, gold, and other materials from South Africa and other European countries and then process and export back the same (Choudhary and Julka 2018). Jaipur, which has been known since medieval times for its gems and jewellery industry has become capital of this industry. Interior design and fashion industries are also mainly located in the major urban centres of India and seems to have also gone through consolidation like gems and jewellery industry after the liberalization.

As per KPMG (2013b), the market size of the gems and jewellery in 2012–13 was about INR 4,541 billion, and that constituted about 5.9% of India's GDP, while the total employment in the sector was about 464,000. This employment figure is marginally higher than what we find from Economic Census 2013–14 data, as they are estimates by the KPMG.

The data relating to the design sector is presented in Table 4.11 and through Figure 4.10. The following major observations can be drawn from the same. First, Maharashtra and Gujarat are the major hubs of this sector. Though they have experienced a significant decline in the number of workers engaged in this sector, in 2013–14 they rank first and second. Southern states like Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, and Telangana rank comparatively better than other states after the western states. Outside the western and southern regions of the country, West Bengal is also known for its gems and jewellery sector. Second, almost all the states have experienced a decline in the growth rates of workers in this sector. Third, the location quotient of workers in this sector shows that Tripura, Dadra and Nagar Haveli, Daman and Diu, and Gujarat remain the states of specialization in this sector.

Table 4.11 Growth of design enterprises, worker, and location quotient by states, 1998 and 2013–14

States	*Enterprises (000)*		*Workers (000)*		*CAGR (%)*		*LQ for workers*	
	1998	*2013–14*	*1998*	*2013–14*	*Enterprises*	*Workers*	*1998*	*2013–14*
Andaman and Nicobar Islands	0.0	0.0	0.2	0.1	−4.7	−9.8	0.9	3.5
Andhra Pradesh	13.4	0.9	28.0	1.8	−16.8	−16.6	0.9	0.6
Arunachal Pradesh	0.0	0.0	0.1	0.0	−12.0	−14.4	0.2	0.4
Assam	3.1	0.1	7.3	0.3	−19.1	−19.5	0.6	0.1
Bihar	2.0	0.2	3.2	0.3	−15.5	−15.5	0.2	0.3
Chandigarh	0.0	0.1	0.1	0.2	6.8	4.0	0.1	0.9
Chhattisgarh	2.5	0.1	4.3	0.3	−18.4	−17.2	0.6	0.4
Dadra and Nagar Haveli	0.0	0.0	0.0	0.0	–	–	0.0	5.4
Daman and Diu	0.0	0.0	0.0	0.0	−3.3	0.0	0.1	2.3
Delhi	0.9	0.5	6.0	2.4	−4.1	−5.9	0.1	2.5
Goa	0.6	0.0	0.9	0.0	−27.6	−26.4	0.4	0.1
Gujarat	25.3	2.6	269.1	8.9	−14.2	−20.3	3.8	2.7
Haryana	3.9	0.2	6.2	0.5	−19.3	−15.6	0.6	0.6
Himachal Pradesh	0.9	0.1	1.3	0.1	−16.7	−15.8	0.3	0.4
Jammu and Kashmir	0.3	0.2	0.4	0.3	−3.7	−3.2	0.1	0.2
Jharkhand	1.0	0.3	1.5	0.9	−7.7	−3.8	0.3	1.5
Karnataka	10.3	1.7	18.8	7.5	−11.2	−5.9	0.6	2.6
Kerala	14.0	1.5	29.3	4.2	−14.0	−12.2	0.9	1.8
Lakshadweep	0.0	0.0	0.0	0.0	−7.1	−7.1	0.1	0.5
Madhya Pradesh	10.4	0.5	17.4	0.9	−18.6	−17.7	0.6	0.6
Maharashtra	20.4	3.2	64.8	10.5	−11.6	−11.4	0.9	1.7
Manipur	0.9	0.0	2.4	0.0	−30.5	−32.9	1.3	0.0
Meghalaya	0.1	0.0	0.3	0.1	−12.7	−12.1	0.5	0.5
Mizoram	0.0	0.1	0.0	0.2	21.6	13.5	0.1	2.5
Nagaland	0.0	0.1	0.0	0.1	6.4	4.3	0.1	0.6
Odisha	5.5	0.4	9.3	0.8	−15.6	−15.2	0.5	0.2
Puducherry	0.4	0.0	0.7	0.1	−13.0	−11.1	0.4	1.0
Punjab	5.2	0.2	9.9	0.3	−20.8	−20.5	0.7	0.4
Rajasthan	13.6	0.5	26.6	1.0	−20.1	−19.8	0.9	0.3
Sikkim	0.0	0.0	0.1	0.0	−19.3	−24.4	0.3	0.0
Tamil Nadu	24.9	1.4	70.0	4.4	−17.6	−16.8	1.3	0.7
Telangana	5.6	2.7	11.6	8.1	−4.7	−2.4	0.3	1.9
Tripura	0.6	0.9	1.0	1.7	2.8	3.4	0.7	7.8
Uttar Pradesh	14.2	0.6	24.8	1.8	−19.3	−16.2	0.4	0.2
Uttarakhand	0.4	0.1	0.6	0.2	−11.0	−7.7	0.2	0.6
West Bengal	31.8	2.8	84.2	6.7	−15.0	−15.5	1.0	0.8
Total	212.5	21.8	700.8	64.5	−14.1	−14.7	1.0	1.0

Note: CAGR = Compound annual growth rate; LQ = Location quotient.

Source: Computed using data from MoSPI (1998, 2016).

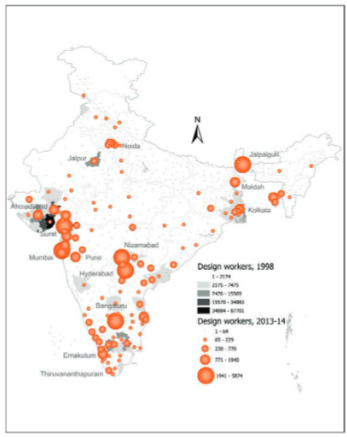

Figure 4.10 Distribution of design workers by district, 1998 and 2013–14
Source: Computed using data from MoSPI (1998, 2016).

Fourth, when we plot district-level workers data of this sector, we find four primary clusters. The first primary cluster is the Pune-Mumbai-Surat-Ahmedabad belt, while the second major cluster is the Hyderabad-Nizamabad region. The third major cluster spreads across several districts of Kerala-Tamil Nadu-South Karnataka region. This third cluster has Bengaluru as the major centre of this activity. Kolkata region also has several districts with a relatively higher concentration of workers in this sector, and this region together with Maldah and Jalpaiguri can be considered constituting the fourth largest cluster of the design sector. Manipur, Delhi (centred at Noida), and coastal Andhra Pradesh are seen as tertiary clusters. In terms of the number of workers, Surat district in 1998 has ranked first (with 87,701 workers) and was followed by Bhavnagar (67,639), Mumbai (34,883), Amreli (26,639), Ahmedabad (22,050), and Kolkata (155,050). However, in 2013–14, Bhavnagar has lost its position (which also had a location quotient of 5.3 and ranked first in 1998 in this regard), and Bengaluru has the highest number of workers in this sector (total workers 5,874). Bengaluru was followed by Mumbai Suburban (3,559), Surat (3,351), Nizamabad (3,271), Hyderabad (3,105), and Jalpaiguri (2,603). The KPMG (2013b) has identified Surat and Ahmedabad as centres of diamond processing, Bhavnagar and Jaipur for gemstone processing, and Kolkata, Thrissur, and Coimbatore for handmade jewelleries.

4.4.9 Creative services

Creative services is a group of several activities including architecture, advertising, research, and development (R&D), and cultural and recreational services. This sector has also seen massive decline between the years 1998 and 2013–14. The reasons for the decline again can be located in digitalization, consolidation, and demand for quality services available online. The local architectural services which people used to avail themselves are now brought from major professional enterprises located in major cities and even outside the country. Further, the availability of digital messaging has made it possible to have real-time consultancy and services. Advertising has faced similar challenges. Online contents from YouTube, Google Maps, Wikipedia, Quora.com, etc. have massively impacted the need for creative services. The research and development activities have also grown as the number of institutions have increased but that has not compensated for the decline in other sectors.

From the data presented in Table 4.12 and Figure 4.11, we can make the following major observations related to distribution and growth of creative services in India. First, the sector has experienced significant declines in almost all the states during 1998 and 2013–14. The decline of workers in this sector has been of more than 10% per annum. Second, the regional divide in the

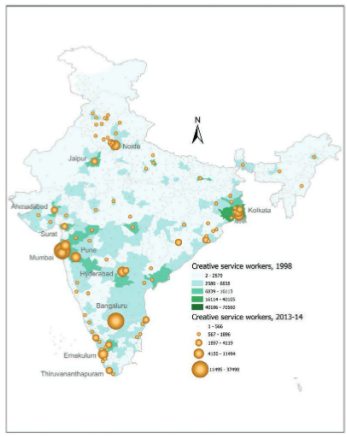

Figure 4.11 Location of workers of creative service sector by district, 1998 and 2013–14
Source: Computed using data from MoSPI (1998, 2016).

Table 4.12 Growth of creative service enterprises, worker, and location quotient by states, 1998 and 2013–14

States	*Enterprises (000)*		*Workers (000)*		*CAGR (%)*		*LQ for workers*	
	1998	*2013–14*	*1998*	*2013–14*	*Enterprises*	*Workers*	*1998*	*2013–14*
Andaman and Nicobar Islands	0.2	0.1	0.6	0.4	−8.1	−2.9	1.1	5.9
Andhra Pradesh	43.4	1.7	76.3	5.3	−19.5	−16.2	1.2	0.4
Arunachal Pradesh	0.4	0.1	0.8	0.3	−7.0	−5.9	0.9	3.5
Assam	9.8	0.6	27.7	3.4	−16.9	−13.0	1.2	0.4
Bihar	27.2	0.9	47.1	2.1	−20.6	−18.6	1.5	0.5
Chandigarh	0.9	0.2	3.5	1.2	−8.8	−6.8	0.9	1.3
Chhattisgarh	14.0	0.4	22.1	1.2	−21.3	−17.5	1.5	0.5
Dadra and Nagar Haveli	0.1	0.1	0.1	0.2	1.3	4.1	0.6	6.8
Daman and Diu	0.1	0.0	0.2	0.1	−15.6	−6.3	1.1	3.3
Delhi	21.3	1.5	70.6	13.0	−16.1	−10.7	0.8	3.0
Goa	1.3	0.4	3.4	1.7	−8.3	−4.4	0.9	5.8
Gujarat	38.2	4.5	73.5	13.0	−13.3	−10.9	0.5	0.9
Haryana	15.8	1.5	27.5	5.0	−14.5	−10.7	1.2	1.4
Himachal Pradesh	3.8	0.4	6.7	1.5	−13.7	−9.4	0.8	1.3
Jammu and Kashmir	3.5	0.3	5.5	0.9	−15.4	−11.1	0.4	0.2
Jharkhand	9.4	0.8	17.7	2.1	−15.5	−13.4	1.9	0.8
Karnataka	34.2	4.1	74.5	43.6	−13.2	−3.5	1.2	3.4
Kerala	33.1	6.4	63.9	20.4	−10.4	−7.3	1.0	2.0
Lakshadweep	0.0	0.0	0.1	0.0	−100.0	−100.0	0.8	0.0
Madhya Pradesh	46.3	1.4	81.8	5.0	−21.0	−17.0	1.4	0.8
Maharashtra	82.7	9.6	181.3	60.2	−13.4	−7.1	1.2	2.1
Manipur	0.9	0.5	1.8	1.1	−4.7	−3.2	0.5	0.3
Meghalaya	0.5	0.3	1.4	0.6	−3.7	−5.1	1.0	1.5
Mizoram	0.2	0.0	0.5	0.1	−13.6	−10.8	0.7	0.3
Nagaland	0.4	0.0	1.1	0.1	−20.5	−16.7	1.4	0.1
Odisha	33.5	6.1	60.3	16.0	−10.8	−8.5	1.7	1.0
Puducherry	0.8	0.1	5.6	0.9	−11.2	−11.5	1.5	1.7
Punjab	13.9	4.1	24.1	7.8	−7.9	−7.2	0.9	2.0
Rajasthan	32.4	2.9	63.4	7.8	−14.8	−13.0	1.1	0.5
Sikkim	0.2	0.1	0.5	0.2	−8.6	−7.5	1.3	1.6
Tamil Nadu	47.3	3.5	94.3	12.7	−15.9	−12.5	0.8	0.5
Telangana	23.1	1.6	52.1	11.6	−16.3	−9.5	0.7	0.6
Tripura	2.6	0.2	3.7	0.5	−16.3	−13.2	1.2	0.5
Uttar Pradesh	68.6	3.3	134.1	17.6	−18.4	−12.6	1.0	0.4
Uttarakhand	4.3	0.4	8.1	1.6	−15.3	−10.1	1.2	1.2
West Bengal	65.7	8.2	174.3	26.0	−13.0	−11.9	1.0	0.7
Total	679.8	66.0	1410.3	285.5	−14.4	−10.1	1.0	1.0

Note: CAGR = Compound annual growth rate; LQ = Location quotient.

Source: Computed using data from MoSPI (1998, 2016).

distribution of creative service workers is very marked. The western flank of the country from southern states, Maharashtra, Gujarat, Rajasthan, Delhi, and Punjab has a higher number of workers in this sector. Only southern West Bengal (Kolkata region) has a sizeable presence of workers in the eastern region. Third, the district level data shows that there are marked clusters/centres of the location of such workers (Figure 4.11). Mumbai and Bengaluru are the two primary centres of such industries. The secondary centres are Ernakulum, Hyderabad, Noida and Kolkata. There are a few tertiary centres but mainly located in Haryana and Punjab, Orissa, and coastal Kerala. Figure 4.11 also shows that many districts of south India which had relatively higher number of workers in creative services in 1998 have lost them by 2013–14 (see the shades in the map for 1998). In terms of the number of creative service workers among districts of India in 1998, Mumbai ranked first (with 40,105 creative service workers), and was followed by Kolkata (32,398), North 24 Parganas (25,213), Bengaluru (22,740), Medinipur (19,422), Hugli (19,397, and Pune (12,113). However, in 2013–14, Bengaluru ranked first (37,490 creative workers), and was followed by Mumbai Suburban (20,487), Mumbai district (11,494), Thane (8,483), Noida (8,007), and Pune (7,683).

4.5 Determinants of creative sector workers

What are the determinants of the concentration of CI workers? The most likely factors which can impact the development of creative industries are per capita income, higher education (Di Giacinto and Ferrante 2007), and urbanization rate (Lazzeretti et al. 2008). The per capita income leads to an increase in purchasing power which enables individuals to consume more creative goods and services. Higher education can be another determinant of creative goods and services, while urbanization is more associated with conspicuous consumption and display of creative goods and services, as CIs are usually associated with the status of families and individuals in the society. Given that we do not have data available for gross or net value addition by CI sectors by state or districts, the other indicators of the development of creative industries can be the number of creative enterprises or number of workers normalized with some appropriate denominators. We consider that number of workers in the creative sector per million of the population can be an appropriate indicator in this regard. The number of enterprises may not be a meaningful indicator of creative sector development as they can be large or small and even a few enterprises in a region can produce more goods and services than a large number of small enterprises in another region.

Once we identified the dependent and the interdependent variables, the problem becomes how to estimate the parameters using the data of the two reference years, 1998 and 2013–14, for 28 different states, including Union Territories. As the data belong only for two reference years for the same group of states, one could use the usual panel data model by taking difference of

the variables. However, for simplicity, we have avoided the panel regression and instead have computed separate equations for each of the years, 1998 and 2013–14. The additional problem which could arise out of this cross-sectional data is spatial autocorrelation. As the data are for the state (located in spatial contiguity) of the same country, the spatial autocorrelation is strongly expected in the data (see Chapter 6 for a detailed discussion on spatial regression models). To overcome the spatial autocorrelation, we employed spatial econometric methods wherever we encountered spatial autocorrelation. We used the queen contiguity matrix in the estimation of our spatial regression equations. To save space, we have directly produced the best results yielded by ordinary least square (OLS), spatial lag model (SLM), or spatial error model (SEM).

The basic regression model used is as follows:

$$Y = \alpha + \beta_1 I + \beta_2 E + \beta_3 U + \xi \quad \ldots \quad (1)$$

where Y is CI workers per million population in different sectors at the state level; I is the natural log of per capita net state domestic product; E is the percentage of population in 14–59 years age group with undergraduate and above level of education; U is the urbanization rate of the states; and ξ is the error term. We have estimated the equation separately for both the reference years, 1998 and 2013–14. We found that some of the estimations are affected by spatial lag or errors. To overcome the problems, we have augmented the equation using appropriately spatial lag or spatial errors.

We can make the following major observation based on the estimates of the regression equations of total and sectoral CI workers per million population presented in Table 4.13.

First, the higher educated class has been an important determinant of creative workers in the states in both the reference years. Urbanization was a significant determinant in 1998, while per capita income in 2013–14. In 1998, with an increase of 1% of undergraduate and above level of population (higher education), the increase in state CI workers per million of population was about 481, which increased to about 1,260 in 2013–14. In 2013–14, with an increase of 1% in per capita income of the state, the number of creative sector workers increased by about 6,134. This shows that as the economies shift upward (per capita income increases) creative sector becomes more dominant. This is expected as the demand for cultural and creative goods and services increases with the increase of income.

Second, with regard to the determinant of the art craft workers (*HHW*) of states, in 1998 none of the factors show any impact on the workers, but in 2013–14, per capita income and percentage of population with undergraduate and above levels of education were found to be having significant impact on the workers per million of population. It is interesting to note that the impact of per capita income is negative on *HHW*, indicating that as income rises the workers

Table 4.13 Determinants of the CI workers by sector, 1998 and 2013–14

Variables	*CIW*		*HHW*		*CSTW*		*PAW*		*VAW*	
	1998	*2013–14*	*1998*	*2013–14*	*1998*	*2013–14*	*1998*	*2013–14*	*1998*	*2013–14*
α	−5503.53	64630.20***	−7349.45	63090.50***	−910.20	−189.06	−131.37	−928.752	214.67	−403.69
	(0.541)	(0.007)	(0.121)	(0.006)	(0.226)	(0.774)	(0.352)	(0.404)	(0.785)	(0.596)
NSDP/	419.26	−6134.36***	750.35	−5984.49***	84.78	20.52	−19.66	91.80	−41.55	43.18
capita	(0.648)	(0.007)	(0.113)	(0.006)	(0.648)	(0.747)	(0.168)	(0.395)	(0.598)	(0.558)
Higher	481.49**	1260.27***	159.86	1135.50***	38.34**	−9.78	19.84***	−5.92	52.31***	5.55
education	(0.020)	(0.002)	(0.144)	(0.004)	(0.017)	(0.329)	(0.000)	(0.725)	(0.007)	(0.631)
Urbanization	158.47***	−50.80	− 8.03	−69.47	0.274	4.10*	0.498	5.98	6.17	1.84
rate	(0.000)	(0.530)	(0.714)	(0.373)	(0.932)	(0.066)	(0.455)	(0.120)	(0.107)	(0.47)
Ω (spatial	− 0.213	–	–	–	–	–	–	–	–	0.24
lag)	(0.197)									(0.226)
Λ (spatial	–	0.62 λ***	–	0.60***	*− 0.44*	0.35*	–	–	–	–
error)		(0.000)		(0.000)	(0.197)	(0.060)				
R-squared	0.856	0.351	0.375	0.359	0.557	0.298	0.794	0.335	0.747	0.319

Variables	*AUW*		*PPMW*		*NMW*		*DSW*		*CSW*	
	1998	*2013–14*	*1998*	*2013–14*	*1998*	*2013–14*	*1998*	*2013–14*	*1998*	*2013–14*
α	−511.78	−564.10	1904.31	−316.68	−426.39	1955.27	2451.56	130.25	−51.27	−1411.25
	(0.201)	(0.271)	(0.644)	(0.337)	(0.444)	(0.630)	(0.715)	0.777)	(0.986)	(0.116)
NSDP/	61.93	58.43	−418.86	36.33	10.16	−228.06	−195.15	−7.101	−11.49	126.20
capita	(0.123)	(0.239)	(0.313)	(0.255)	(0.854)	(0.561)	(0.771)	(0.873)	(0.986)	(0.146)
Higher	−3.07	−2.75	344.01***	2.12	32.56**	62.42	−205.51	−12.55*	114.97	−6.50
education	(0.740)	(0.720)	(0.001)	(0.669)	(0.017)	(0.313)	(0.194)	(0.082)	(0.099)	(0.628)
Urbanization	1.12	0.92	47.69**	−0.06	9.84***	10.11	53.00	3.76**	42.31***	6.96**
	(0.553)	(0.590)	0.021)	(0.955)	(0.000)	(0.461)	(0.105)	(0.022)	(0.005)	(0.020)

(*Continued*)

Table 4.13 (Continued)

Variables	*AUW*		*PPMW*		*NMW*		*DSW*		*CSW*	
	1998	*2013–14*	*1998*	*2013–14*	*1998*	*2013–14*	*1998*	*2013–14*	*1998*	*2013–14*
Ω (spatial lag)	−0.49** (0.029)	–	–	–	–	0.449** (0.011)	–	–	–	−0.29 (0.098)
Λ (spatial error)	–	–	–	–	–	–	–	–	–	–
R-squared	0.289	0.167	0.836	0.187	0.873	0.360	0.121	0.214	0.794	0.585

Note:

1 CIW = total number of creative sector workers per million population; HHW = number of workers in handloom and handicraft sector per million population; CSTW= number of workers engaged at cultural sites per million of population; PAW = number of workers in performing arts per million of population; VAW = number of workers in visual art sector per million of population; AUW = number of workers in audio-visual sector per million of population; PPMW = number of workers in publishing and print media sector per million of population; NMW = number of workers in new media sector per million of population; DSW = number of workers in design sector per million of population; CSW = number of workers in creative services per million of population.

2 Probability values are in parentheses; and

* = significance at 10% level,

** = significance at 5% level, and

*** = significance at 5% level of significance.

Source: computed by authors.

move out from this traditional industry, as often it is the industry with low remuneration and some of the enterprises being run even at subsistence level.

Third, in terms of determinants of cultural site workers (*CSTW*), the share of population with higher education had significant impact in 1998 but its impact has declined in 2013–14. Fourth, regarding determinants of performing arts workers in states of India (*PAW*), higher education was a major determinant in 1998, but in 2013–14 none of the independent variables are found to be having any significant impact on the workers of the *PAW*. Fifth, with regard to determinants of visual arts workers (*VAW*), only higher education exercised a significant impact in 1998. In 2013–14, none of the independent variables had statistically significant impact on the concentration of visual art workers.
Sixth, in case of audio-visual workers (AVW), we do not find any of the independent variable having any significant impacts. Seventh, publishing and print media workers' share was impacted by higher education in 1998, but in 2013–14 we do not find any of the factors having significant impact on the workers share.

Eighth, none of the factors, income, higher education, or urbanization rate has any significant impact on the concentration of workers of new media (*NMW*) in 2013–14, but in 1998 higher education and urbanization rate had significant impacts on the concentration of the workers. The reason for the no relationship with the independent variable of *NMW* in 2013–14 may be because higher education, income, and urban population characterize many cities and districts, but not all of them have developed new media industries. There may be some other historical or idiosyncratic factors behind the location patterns, not accounted for in the regression equations.

Ninth, urbanization is the only factor that has had a statistically significant impact on the location of design workers in 2013–14. Finally, urbanization is again the only factor that has had a significant impact on the share of creative service workers (CSW) in both the years at the state level. The reasons for this may be that demand for these services is higher in urban centres, and second the internet penetration in urban areas is much higher than that in rural areas. As per Census of India (2011), only 3% of the total households in India had access to the internet in 2011, while the figure for rural and urban areas was 8% and 1%, respectively, showing a very wide gap.

4.6 Conclusions

This chapter presents the first known attempt in India to examine the number of CIs, workers engaged in them at the national, state, and district levels in 1998 and 2013. It was challenging to present the major aspects of growth and spatial distributions of CIs in the country in the limited space of this chapter. Some of the important findings emerging from this chapter are as follows. First, at the aggregate level, CIs have grown significantly between 1998 and 2013–14. However, some of the sectors like design, creative services, and publishing and

print media have contracted. They may have been affected by digitalization and globalization.

The southern and western states of the country have significant concentrations of CIs. However, we also find cities like Kolkata and Delhi, and states like Haryana and Punjab performing better in some specific sectors, specifically in art crafts. Second, today, art crafts constitute the major share of workers in CIs in the country. Relatively underdeveloped states have more workers engaged in art crafts. In fact, in this phase of globalization, these states can benefit much from this sector by promoting their crafts products and integrating the same with local, national, and international markets. To have more complete insight into the creative industries in India, it is recommended that creative industries be marked and presented as separate categories in economic census data, as has been attempted for handloom and handicraft industries in EC 2013–14. Further, the EC can collect data on some more variables like net and gross value added by economic establishments, which will help in understanding the economic value or size of CIs.

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