

Spatial Analysis of Architectural Education and Professional distribution in india with the focus on Karnataka

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Abstract - Architectural education in India has expanded significantly, with over 422 colleges and 21,968 graduates annually, but still faces challenges including decreasing trend in enrollment especially in higher education. Architectural colleges are clustered geographically within specific states (e.g. Maharashtra, Tamil Nadu, and Karnataka), which has created an inconsistency between what students are learning and what is practised professionally. This research will help fill a gap in synthesised analysis and provide specific context for the spatial arrangement of architectural education and career opportunities in India. The research seeks to map and analyze the distribution of architectural colleges, the intake capacity of colleges, and the total count of registered architects in India, and in Karnataka in particular. The research complements analytical mapping with tabular analysis and outcomes and compares those results with Lorenz and Gini coefficient inequality measures. The research demonstrates a significant decrease in B.Arch enrollment at the national level, and extreme inequality in the distribution of architects in Karnataka as well. The research highlights that Karnataka, Bengaluru Urban, has the most educational facilities and registered professionals. Ultimately, the research demonstrates the urgent demand for change in architectural education and the need for equitable resource distribution to address and remedy regional imbalances to support sustainable urban growth.

Keywords - Architectural Education, Enrollment Trends, Geographic Clustering, Spatial distribution, Inequality Measures (Lorenz and Gini).

I. INTRODUCTION

Architecture has been both an art and profession for a long time, and its history extends into ancient history with the passing of architectural knowledge through guilds, apprenticeships, and oral traditions. Architecture education formally began in Europe in the 17th and 18th centuries with the creation of schools of architecture like the Académie Royale d'Architecture in France (1671), which many sources suggest is among the first formal architecture schools (Kostof, 1995). The development of modern education model that relies on theoretical foundation, design studios, and training in the technical aspects of architecture developed over the 19th century, specifically relating to two models: the École des Beaux-Arts in Paris, and the Bauhaus

in Germany. The Beaux-Arts and Bauhaus models emphasised the fusion of artistic sensibility with technical analysis and were adopted more or less throughout parts of the world. We also have to acknowledge that in the colonial sphere, we have architecture education introduced to already established non-Western countries, however this was usually an imposed extension of European ideology and methodology on these countries. By the early 20th Century, architecture schools started to appear in British colonies, like India, to accommodate rapidly increasing demand for opportunities related to infrastructure growth and urban planning.

Figure 1: Chronological evolution of Architectural education and practice in india.



Source: Author's illustration

Chronological evolution of Architectural education and practice in india from Figure 1 depicts that India's foray into architectural education officially began in 1913, when the Department of Architecture was established at the Sir J.J. School of Art, Mumbai. This was the transition from apprenticeship to institutionalised learning (Council of Architecture [COA], 2021).

After independence, it became apparent that the new nation required its own local planning and design skills, which represented a pivotal moment in shaping the country's built environment, and led to the first School of Planning and Architecture (SPA), Delhi, in 1951. In 1959 the Indian Institute of Architects (IIA), which had been established in 1917, was given formal recognition for the purpose of developing a dynamic professional organisation for architects and beginning the process of developing armature, planning and standards for professional practice. The most significant moment involves the enactment of the Architects Act in 1972, which resulted in the formation of the Council of Architecture (COA) as the legal authority to regulate both education and practice. Over the next decades, institutions such as SPA Delhi could claim deemed university status (1980); in addition, leading institutions with a more design focus, such as the National Institute of Design (NID), gained national importance (2008).

The Smart Cities Mission (2015) and New Education Policy (2020), overall, reflect a movement towards sustainability and interdisciplinary practices. A number of Architecture Colleges were established in Karnataka post 1972 as indicators of the COA's guideline shift, to establish Colleges to serve the increasing demand and urbanization. By 2020, Karnataka had a plethora of architecture schools in public and private institutions (COA, 2021).



Figure 2: Location of Study Area Map. (Source: Author - 2025)

Karnataka is a state both privileged by high-tech urban growth, such as Bengaluru, and infamous for rural underdevelopment. These dual experiences challenges schools of architecture in Karnataka, with educators facing inconsistency the gradual change of delivery curriculum, less engagement with emergent scopes of work and/or limited expertise accordingly, no real opportunity to investigate vernacular and indigenous practices, limited or no advocacy related to regional governance frameworks, and lastly the overarching power of centralized regulatory authorities, AICTE and COA, engages unfairly with Karnataka regional socio-spatial realities through fairly blanket approaches to curriculum that endorse a "one-size- fits-all" approach. According to a survey from 2022 (AAEI, 2022) conducted by the Association of Architectural Educators of India, over 65% of architecture faculty in Karnataka believe the lack of both flexibility and relevance to local context limits their ability to teach in most appropriate ways.

The central dilemma being addressed in this study is the disconnect between architectural education and the changing socio-environmental and technological realities in Karnataka. This disconnect is represented through rigid curricula, poor employment in the public and private sectors, and constrained research innovation. The implementation of the National Education Policy (NEP) 2020 provides a timely opportunity for the reconsideration of pedagogy with key elements such

as multidisciplinary learning, regionality, and digital pedagogy (Ministry of Education, 2020). However, the primary challenge will be the contextualization of these reforms in state-level educational ecosystems and institutional capabilities. There are several reasons why examining this issue is important. First, it can help both national regulators and institutions map where disconnects exist about the needs of particular states. Second, it can help institutional leaders create a culture of innovation, flexibility, and engagement with their communities. Third, it has implications for shaping resilient, equitable, and sustainable urban futures, especially in a state like Karnataka, which shares parallels with India's urban-rural divide. This study will produce original insights by mapping regulatory, curricular, and institutional challenges and the potential for strategic actions for reform.

II. LITERATURE REVIEW

The network visualisation map in Figure 3 is produced from research papers on "Trends, Challenges, and Institutional Dynamics in Architectural Education" in VOSviewer illustrates interconnected clusters of important themes. There are a number of overlapping clusters mapped in Figure 3, suggesting the core area of focus, or emerging trends in this area, and referring to the codes' connections to all other codes (and code groupings). The central relational term is "problem", which is related to terms such as "designing", "studio", "building" and "instructor". Inferred from this information is that design pedagogy and studio-based learning is still presenting significant problems in architectural education.

A second cluster relates to "career", "student enrolment", and "professional practice", which indicates a strong interest in the changing profession and the desired educational outcomes from the perspective of career. This area relates to issues of employability, curriculum relevance, and institutional duty of care to students who are entering a transforming architectural profession. A third style of cluster is indicative of innovation or technology and emerges themes such as "IoT", "vision", and "future trend" with a contextual nuance towards the

developing role smart technologies and digital technologies have in architectural education and practice. A fourth suite of clustering words is determined by terms such as "urbanism" and inherent links to terms such as "engineer" and "architectural design course". As noted above ("Contextualising Institutional Dynamics in Architectural Education"), there are also many overlapping clusters mapped here, which illustrate the core area of focus, or emerging trends, in this thematic area and refer to the

codes' relationships to all other codes (or code groups). The central relational word in the above codes is "problem", which has associations - or co-occurrences - with terms such as "designing", "studio", "building", and "instructor". From all this, it is reasonable to infer that design pedagogy and studio-based learning are still posing significant problems for architectural education.

Another notable cluster is centred on "career," "student enrolment," and "professional practice," which denotes a new preoccupation with the changing shape of architectural education to meet the demands of the profession.

This cluster embodies the change of practice towards agility and the growing pressure on graduates to be equipped for a rapidly changing built environment. The emergence of a third cluster is about innovation and technology and is comprised of terms such as "IoT," "vision," and "future trend." This cluster indicates a greater regard for emerging technologies, digital devices, and data programming/design thinking from the perspective of architectural education and practice.

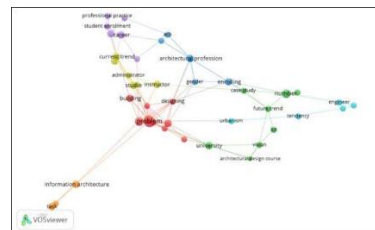


Figure 3: Co-Occurrence Network Visualisation by VOSViewer (Source: Author's illustration using VOSviewer - May 2025)

Context relevant Literature review

Research Paper names	Name of Journal	Objective	Concerns	Findings	Conclusion
A Total Quality Approach to Architectural Education in India	Brazilian Journal of Development, Vol 10, No. 5, 2024	To assess shortcomings of the current architectural educational model in India and propose a TQM-based approach to advance it	- Declining quality due to an emphasis only on quantity	- The current education model does not include quality standards	The paper advocates for paradigmatic change to include Total Quality Principles in the delivery of architectural education in India. It calls for a Program of Study that is design-centred, student-centred, engaging with industry that is based on research and is flexible, allowing for lifelong learning whilst also professional relevance and relevance to built environment matters. The proposed framework aims to graduate more employable graduates and improve built environment quality in

					India.
			- A disjointed relationship between academia and practice		
			- No institutional mechanism to maintain or even improve quality	- Institutional development with a TQM approach requires strategic planning to utilise quality management, continual reviewing and improving the educational offering and developing faculty/student engagement activities.	
			- Employment and practical skills are largely ignored		
Architectural Curriculum Improvement for Sustainable Built Environment in India	ACEEE Summer Study on Energy Efficiency in Buildings (2010)	To assess and improve the architectural curriculum in India, to embed sustainable design features and	- Sustainability is not a cohesive concept in architecture education	- 82% of the workforce in construction is unskilled	- Curriculum reform should help meet the future challenges of sustainability

			- Lack of faculty trained in	- Environmental design in	- Requires faculty development
		prepare practitioners for the clean energy economy.	environmental design	the curriculum was third most important discipline and barely covered	and resources, and efforts to integrate theory with practice
			- Limited practitioner training and research in environmental design	- There was a strong interest from institutions to incorporate ECBC	- Helping institutions to create relationships will leave a common legacy, public-private partnerships and exchanging learning will also help
			- Poor resources for simulation and diagnostics	- There is a major degree of freedom and flexibility in the current curriculum, which is not capitalised on	- Recommended that COA and MHRD, BEE, nationally coordinate to institutionalise curriculum reform.
			- Small awareness of global best practice	- Very limited postgraduate opportunities and very limited production of research outputs	

				in sustainabilit y	
Architectur Education in India	Architectur Science Review, Vol. 21, 1978	An overview of the historical developme nt, e cours	- Overemphasis on architectural design at the expense of other subjects	SPA Delhi has taken the lead on reforming its curriculum	- A five-year structure is still needed for full professional education
		structure and proposed changes in architectura l education in India within the 10 + 2 education system.			and preparation
			- Insufficient process flexibility for students changing career ideas	- They are proposing subjecting the curriculum to a two- tiered format of 3 years general + 2 years professional	- The two- tier system allows students to have more flexibility, is conducive to retention, and prepares students to perform well in a variety of professional roles

			- Lack of integration of the science of building construction in the course content	- There is an increasing demand for diversified content in education to meet students' interests and professional needs	- Broader and diversified training --> more professional competence in roles and image of architects as a profession to the public
			- Most students do not have individual architectural qualifications from an architecture school	- The COA have set standards after the Architects' Act (1972)	

Source: Author (2025)

III. DATABASE AND METHODOLOGY

Spatial Distribution Of Architectural Colleges And Intake Capacity In India Architectural education in India has progressed over the years, from its first phases of colonial modernity housing initiatives like Sir J.J. College of Architecture starting in 1913, to the formal governance of the profession as a registered architect established in 1972 (Roy, 2022). Architectural education has responded slowly to reflect the multidisciplinary and participatory values that we need to study, to address the consequences of the complex problems. Architectural education is changing significantly.

Today, there are over 422 architecture colleges in India with an estimated output of over 21,968 graduates per year (Council of Architecture [COA], 2024-2025) At the current time, these institutions are ranked based on their academic performance by the National Institutional Ranking Framework (NIRF) for the year 2024. The top five architecture colleges and their national rank according to NIRF 2024 are: IIT Roorkee, IIT Kharagpur, NIT Calicut, IEST Shibpur

and School of Planning and Architecture, New Delhi. The rankings look at a broad range of factors such as teaching, research output, and professional practice. Figure 4 depicts

that Architectural education in India is geographically concentrated. Maharashtra has the greatest number of colleges (n = 77, 20.87%), followed by Tamil Nadu (n = 57, 15.45%), Karnataka (n = 40, 10.84%) and Kerala (n = 32, 8.67%) together contribute to over 52% of the architectural colleges in India (COA, 2024–2025) as depicted in figure 5 and 6. This is particularly urgent as urban India is expected to grow by 40% by 2036 (National Commission on Population, 2020).

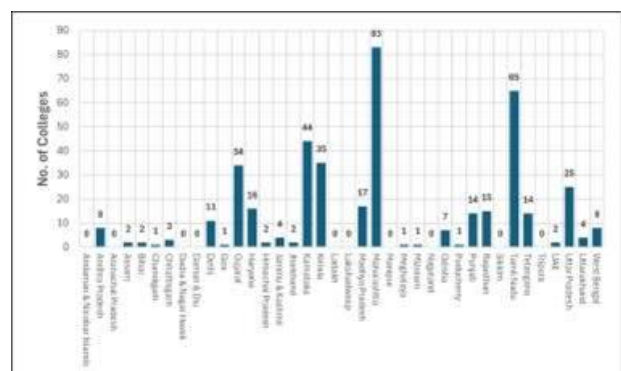
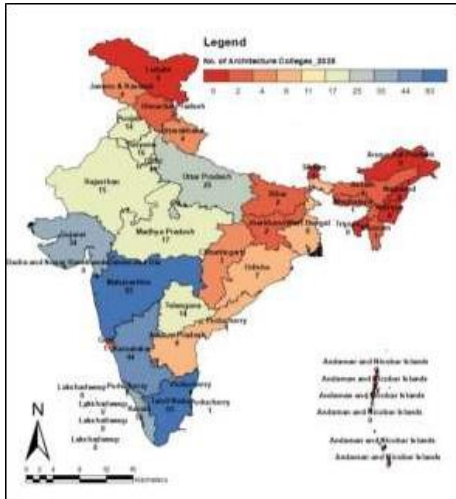


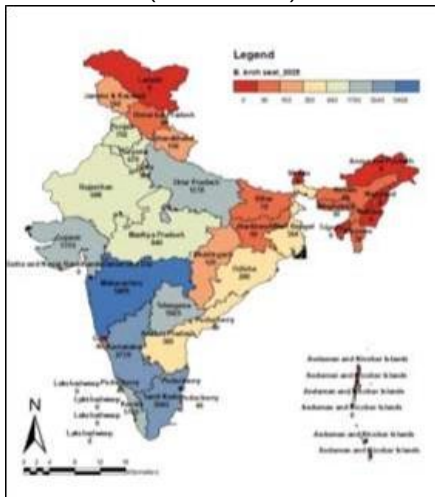
Figure 4: State wise Number of Colleges (source: Council of Architecture website)

Figure 5: Number of Architecture colleges in May 2025



Data source: Council of Architecture website

Figure 6: Number of Enrollment of B. Arch Seat (Year - 2025)



Data source: Council of Architecture website

Enrollment Trends and Gender Distribution in Architectural Education

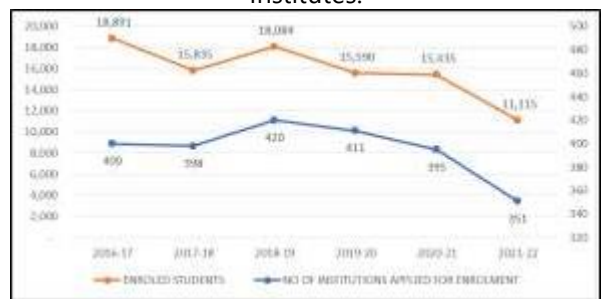
Indian architectural education is in a deep crisis, with many colleges expecting to fill fewer than 50% of their undergraduate seats for 2024 (Srivathsan &

Srivathsan, 2023). The challenge is even worse for postgraduate admissions; some colleges have gotten to a place of enrolling students in the single digits, and they are being shut down. While problems of undergraduate enrolment have existed, the sharp drop in postgraduate numbers indicates systemic issues run much deeper. It is ineffective for the Council of Architecture (COA) to continue the current methods of regulation, particularly the National Assessment and Accreditation Council (NAAC) assessments. There is a need for some urgent reforms in the architecture education sector: institutional autonomy, accountability for quality, and the role of the architectural profession in society.

Figure 7 showcases the trends in enrolment in architecture programmes using data provided from the Council of Architecture's yearly reports between 2016–2017 and 2022–2023.

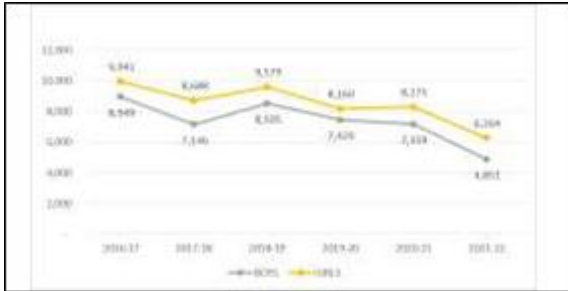
The research demonstrated a decline in enrolment in the B.Arch programme from 18,891 to 11,115 students - a significant decrease of 41%. Alongside enrolment trends, the research displayed a decline in the number of institutions offering architecture courses, which indicates more colleges either wound down or applied for wind-downs; and points to systemic issues in architectural education (Council of Architecture, Annual Report 2021–22, p. 31, retrieved October 2023 from www.coa.gov.in). An analysis of students enrolled by gender shows an emerging pattern (Figure 8). B.Arch male enrolment decreased by ~3,308 students from 2020 to 2021, while female enrolment reduced by ~2,000 students. It appears, therefore, that there has been an overall loss of male students for B.Arch programme admissions.

Figure 7: B Arch Enrollment and Number Of Institutes.



Source: Council of Architecture Annual Report 2021-22— coa.gov.in. Pg. 51 (Last accessed October 2025).

Figure 8: Gender Distribution In Enrolment.



Source: Council of Architecture Annual Report 2021-22— coa.gov.in. Pg. 51 (Last accessed October 2025)

Temporal and Geographic Dynamics of Architectural Institutes

Figure 9 depicts a decrease in enrollment has created a serious problem because colleges are finding it hard to keep their doors open.

A reminder of this can be seen from the 57 institutions that requested closure from the Council of Architecture (CoA) because their dwindling enrollment levels were unacceptable.

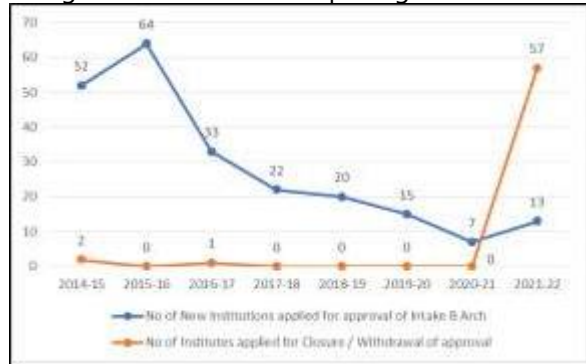
In a review of this trend, it can be noted that the same year also saw new colleges submit development applications, thus making it difficult to say the drop in enrollment is causing the drop in numbers, because the relationship is: unclear. The CoA Annual Report 2021–22 (pg. 31, accessed October 2023) shows that 13 institutions submitted applications for approval to start B.Arch programs in 2021–22. Though this number is down from the high levels in 2015–16, it is interesting to note that new colleges are still requesting approval to start.

Among the 378 institutes offering B.Arch, seven major cities--New Delhi, Mumbai, Pune, Bengaluru, Hyderabad, Chennai and Coimbatore--have ten or more institutions each. Together, the cities accounted for 128 institutions, which represent approximately 34% of the total institutions. The

percentage of the 148 institutes with over 40 student intake is nearly half of the same institutes as well.

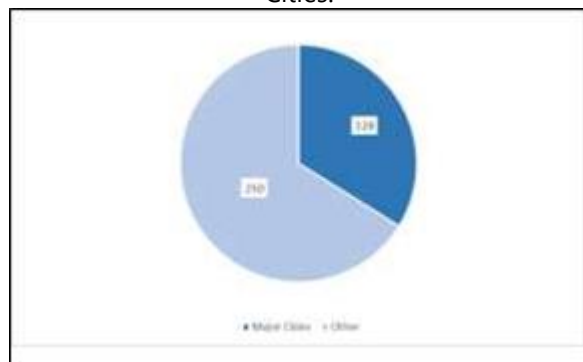
The cities tend to provide better professional opportunities for students, and faculty could be observed from figure 10, and better professional opportunities for teachers' partners, which increasingly influences recruitment. Large urban centres, because of their established industry connections, are a better fit for practice-based architects to teach as visiting faculty. Some urban institutes may have trouble with the numbers; they are very likely to be more sustainable than institutes with limited student applications, because they can recruit from a deep pool of talented teachers.

Figure 9: Closures and Opening of Institutes.



Source: Council of Architecture Annual Report 2021-22— coa.gov.in. Pg. 51 (Last accessed October 2025).

Figure 10: Distribution Of Institutions In Major Cities.



Source: Institutes approved for enrolment in UG Programs 2022-25— coa.gov.in. (Last accessed October 2023)

Age Profile and Registration Trends of Architects in India

Figure 11 shows where registered architects in India fit into the various age groups. The age group 26-35, has a large impact, with 63,124 architects, about 34.5%. This group shows a youthful profession due to practice management activity, which has not been seen in previous decades mainly due to the increase in architecture school enrollment over the last ten years and the increasing interest in the profession. The second-largest group is 36-45, with 26,745 architects (14.6%) followed closely by those 20-25 years of age, 17,920 (9.8%). This represents a large number of young professionals that professionally transitioned into an architectural practice in the last decade. This number for architects gently declines as the age group reaches 45 and continues to chart like it did, which is double. The 46-55 age brackets has 15,145 architects (8.3%), with 56-65 group 6285 (3.4%). Lastly, there were 2900 architects (1.6%) in the 66-75 age group, and 2179 (1.2%) architects in the 76-85 group. There are only 835 architects over the age of 85 (0.5%), which shows the natural retirement and life expectancy. In summary, there are two patterns to note:

Youthful dominance: More than 59% of architects are under 45 which shows a profession with many younger people.

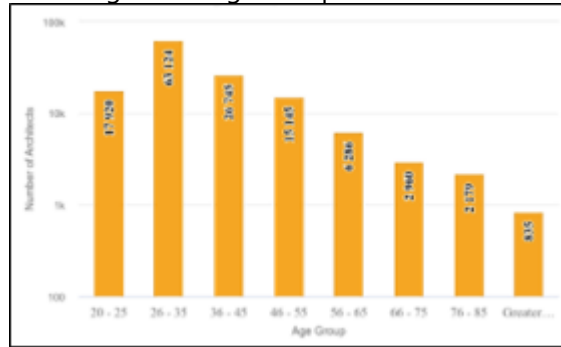
Ageing exit: After the age of 55, the groups get thin, due to retirement, or simply leaving the practice of architecture.

Figure 12 shows the number of architects who were registered in India from 1977 to 2025. Registrations continued to remain below 2500 every year until 2006. In 2011, an important growth period began, then notably increasing after 2016. In 2016, there were approximately 7305 registered architects, which was approximately 6.4% of all registrations.

By 2018, there were 9631 registered architects (8.4% of all registrations) and then from 2019 to 2022 registrations peaked to 14,072 in 2022 (12.3% of total registrations). In terms of registered architects, 2023 and 2024 had 13,912 and 14,009 registered architects respectively, then dropped for 2025 with approximately 4065 registered architects likely due

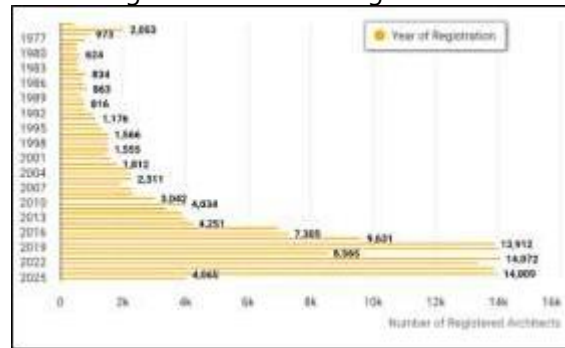
to 2025 being an incomplete year. The trend seems to indicate a growing need for architects.

Figure 11: Age Group of Architects



Source: Council of Architecture Annual Report 2021-22— coa.gov.in. Pg. 51 (Last accessed October 2025).

Figure 12: Yearwise Registration



Source: Council of Architecture Annual Report 2021-22— coa.gov.in. Pg. 51 (Last accessed October 2025).

Mapping and Tabular Analysis Of Architecture Education, Seats, And Registered Architects

The main impetus for pursuing this research was to tackle the knowledge deficit around the local availability and accessibility of architectural educational and professional practice opportunities in India. The Council of Architecture (COA) regularly publishes data about registered architects and approved institutions, but often, synthesised analysis and spatial context are absent. To serve the field of architecture and urban development as effectively as possible, it is critical to understand the spatial distribution of educational institutions, their capacity, and the availability of practising architects for policy direction, equitable resource allocation, and planning.

Additionally, the analysis is timely and relevant to the National Education Policy (NEP 2020), which emphasises regional equity, interdisciplinary and skills-based learning. As a regulated profession, and often specialised, it is important to understand the continuing educational pipeline and professional landscape of architecture about national objectives of sustainable development and capacity building in built environment professions.

The Table 1 demonstrates stark contrasts across the entire Indian landscape in terms of architectural education and density of professional architect numbers in each Indian state and union territory.

Maharashtra, Karnataka, and Tamil Nadu serve as strong footholds within the country, due to high numbers of registered architects, high numbers of architecture colleges, lower ratios of population per registered architects and many more access points for architectural services as shown in figure 13, 14, 15, 16. Populous states like Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh showed an evidently stark lack of architectural infrastructure relative to their populations, especially Bihar which had a very high ratio of population per B.Arch-seat, is representative of its educational gap.

Table 1: Geographic and Demographic distribution of Architectural education, seats and Registered Architects – 2025

State/UT	Population	Share %	Geographic Area in sq km	Registered architects	Colleges	Seats	Pop. Per Architect	Pop.. Per B Arch seat	Geographic area per architect
Uttar Pradesh	2.41E+08	16.85	240,928	9543	25	1178	25282	204809	25
Bihar	1.31E+08	9.18	94,163	1064	2	70	123497	1877157	88
Maharashtra	1.29E+08	8.99	307,713	36997	83	5489	3478	23439	8
West Bengal	1.02E+08	7.09	88,752	2866	8	304	35419	333921	31
Madhya Pradesh	91175000	6.37	308,252	3578	17	840	25482	108542	86
Rajasthan	87306000	6.1	342,239	2850	15	688	30634	126898	120
Tamil Nadu	77394000	5.41	130,060	15134	65	3040	5114	25459	9
Gujarat	73050000	5.1	196,244	8127	34	1310	8989	55763	24
Karnataka	68679000	4.8	191,791	10456	44	2730	6568	25157	18
Andhra Pradesh	56470000	3.94	162,970	2209	8	380	25564	148605	74
Odisha	46953000	3.28	155,707	1438	7	280	32652	167689	108
Jharkhand	43946000	3.07	79,716	663	2	50	66284	878920	120

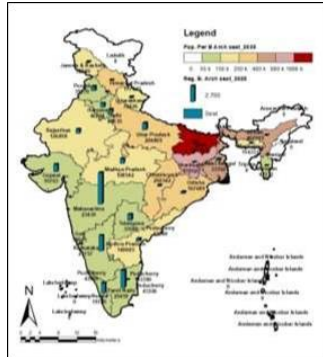
Telangana	39499000	2.76	112,077	5145	14	1065	7677	37088	22
Assam	37406000	2.61	78,438	979	2	80	38208	467575	80
Kerala	35111000	2.45	38,852	9356	35	1780	3753	19725	4
Punjab	31102000	2.17	50,362	2620	14	792	11871	39270	19
Haryana	30957000	2.16	44,212	5226	16	670	5924	46204	8
Chhattisgarh	30041000	2.1	135,192	1173	3	120	25610	250342	115
Delhi	22277000	1.56	1,483	10266	11	562	2170	39639	0
Jammu & Kashmir	14811000	1.03	55,538	467	4	160	31715	92569	119
Uttarakhand	11913000	0.83	53,483	1055	4	150	11292	79420	51
Himachal Pradesh	7113000	0.5	55,673	752	2	40	9459	177825	74
Tripura	4325000	0.3	10,486	60	0	0	72083	0	175
Meghalaya	3430000	0.24	22,429	175	1	30	19600	114333	128
Manipur	3289000	0.23	22,327	165	0	0	19933	0	135
Nagaland	2389000	0.17	16,579	103	0	0	23194	0	161
Puducherry	1732000	0.12	490	311	1	40	5569	4330	2

	0							0	
Arunachal Pradesh	1594000	0.11	83,743	91	0	0	17516	0	920
Goa	1583000	0.11	3,702	959	1	40	1651	39575	4
Dadra and Nagar Haveli and Daman and Diu	1479000	0.1	603	74	0	0	19986	0	8
Mizoram	1264000	0.09	21,081	169	1	30	7479	42133	125
Chandigarh	1204000	0.08	114	873	1	40	1379	30100	0
Sikkim	703000	0.05	7,096	111	0	0	6333	0	64
Andaman and Nicobar Islands	409000	0.03	8,249	51	0	0	8020	0	162
Ladakh	304000	0.02	166,698	11	0	0	27636	0	15154
Lakshadweep	69000	0	32	5	0	0	13800	0	6
Total	1.43E+	100	3287474	135122	420	219	78082	5449	18250

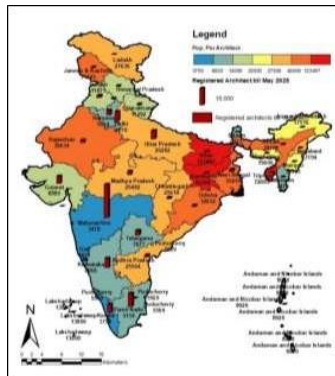
	09					58	2	255	
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Source: Population – statistics times 2025 (<https://statisticstimes.com/demographics/india/indian-states-population.php>), Council of Architecture website

Figure 13: Population per B Arch Seats till 18/5/2025

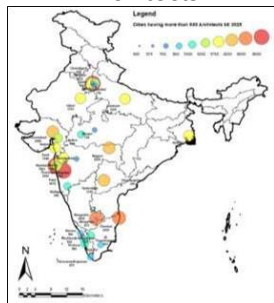


Source: Council of Architecture website



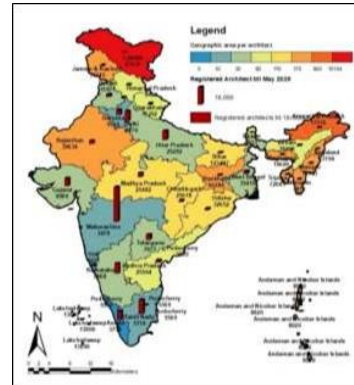
Source: Council of Architecture website

Figure 15: Major Cities Having More Than 500 Architects



Source: Council of Architecture website

Figure 16: Geographic area per Registered architect till 18/5/2025



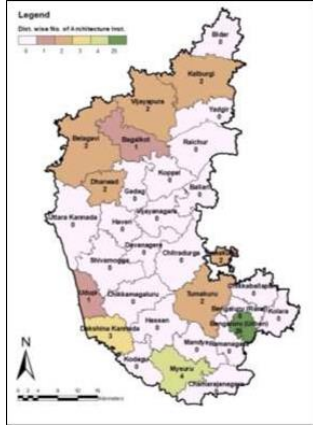
Source: Council of Architecture website

Spatial Distribution of Architectural Colleges And Intake Capacity In Karnataka

The state of Karnataka has been on a burgeoning path in design education, with many premier institutions set up over the decades, and each college contemplates a historical perspective of architectural and technical endeavours with remembrance of established traditions and legacies. The University Visvesvaraya College of Engineering started its program in architecture in 1967, which began its distinctive architectural path. The Manipal School of Architecture and Planning was set up in 1978, followed by BMS College of Architecture in 1980 and RV College of Architecture in 1992, and each developed a progressive architectural educational platform, grounding itself both in history and experimentation.

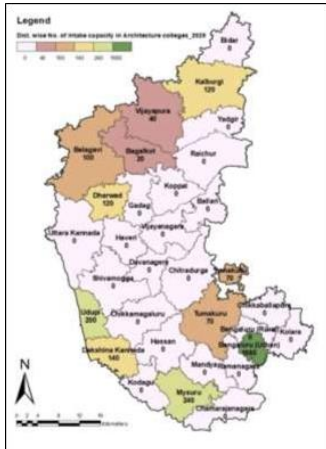
Figures 17 and 18 demonstrate the highly uneven distribution of architectural education in Karnataka. Figure 17 reveals a clear concentration of colleges in Bengaluru Urban (25 colleges) and 1-4 colleges in a few other districts, but many have zero architecture colleges. Figure 18, which demonstrates institution intake capacity, maps directly onto this, as Bengaluru Urban accounts for 1680 seats, while many districts have none. Taken together, the two visualisations tell the story of extreme spatial disparity, demonstrating how access to the pathways.

Figure 17: District-wise Number of Architecture Colleges in Karnataka.



Source: Council of Architecture website

Figure 18: District-wise No. Of Intake Capacity in Karnataka.



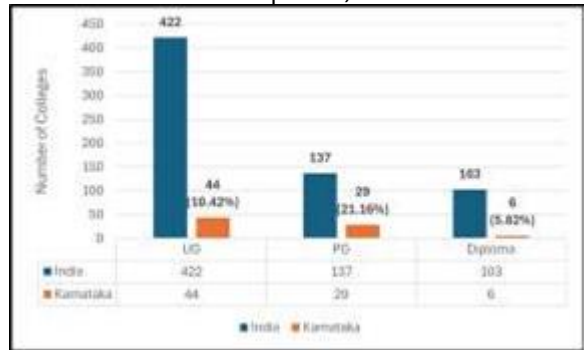
Source: Council of Architecture website

Comparative Analysis of Architecture Education in India and Karnataka by Program Level and Undergraduate Intake Capacity

Figure 19 reveals a comparison of the architecture colleges across universities in India and in Karnataka according to program level, undergraduate (UG), postgraduate (PG), and Diploma. India as a whole has 422 UG programs, 137 PG programs, and 103 Diploma programs. Karnataka, on the other hand, has 40 UG colleges (11.29% of the total programs in India), 29 PG colleges (21.16%), and 6 Diploma colleges (5.82%). Karnataka accounts for a modest proportion of UG and Diploma compared to the national total; however, the percentage of PG is considerable.

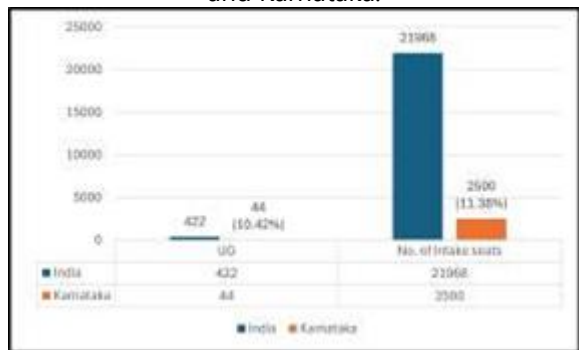
Figure 20 compares the undergraduate architecture colleges and intake capacity in India and Karnataka. In India, there are a total of 422 colleges with 21,968 intake, while Karnataka has a total of 40 colleges with 2,500 intake. Karnataka accounts for 9.47% of the total UG colleges in India and 11.38% of the total intake capacity in India. Thus, even though there are fewer UG colleges in Karnataka than all of India, you can see that primarily the number of enrolments per college is relatively higher as compared to the rest of the country, which indicates a greater concentration of capacity in fewer institutions than the rest of India.

Figure 19: Comparison of Architecture Colleges in India and Karnataka by Program Level (UG, PG, Diploma)



Source: Council of Architecture website 2025

Figure 20 Comparison of Undergraduate Architecture Colleges and Intake Capacity in India and Karnataka.



Source: Council of Architecture website 2025

Mapping And Tabular Analysis Of Architecture Education, Seats, And Registered Architects in Karnataka

Table 2 presents the full picture of the spatial distribution of architectural education in Karnataka, which has a total population of nearly 69.8 million

people. It has 13,936 architects, 44 architecture colleges and 2,730 B.Arch seats. Unfortunately, there is a very skewed distribution with Bengaluru Urban accounting for about 68% of all architects registered, having the largest number of architecture colleges and the largest number of B.Arch seats (Bengaluru Urban has 1,680 of the 2,730). The ratio of total population to total architects in Bengaluru Urban is just 1,164 people per architect, while in some of the

under-represented districts total population to total architects is over 105,000 people per architect (e.g. Chamarajanagara). Many large districts (i.e. there are a large number of people), such as Ballari, Bidar, Raichur and Mandya, have no architecture colleges; they have the highest population-to-architect and population-to-seat ratios depicted in Figures 21, 22, 23, and 24.

Table 2: Architectural Demographics by District in Karnataka (2025)

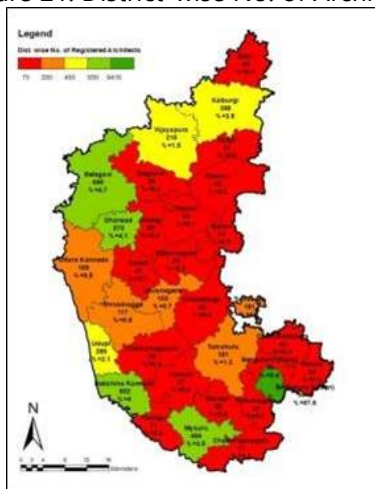
District	Estimated Population in 2025	% Share	Geographic Area in sq km	Total No. of Reg Architects	Colleges	Seat	Pop. Per Architect	Pop. Per B Arch seat	Geographic area per architect
Bagalkot	2,152,805	3.08	6582.00	56	1	20	38443	107640	118
Ballari	2,793,996	4.00	4226.00	74	0	0	37757	0	57
Belagavi	5,444,990	7.80	13398.00	650	2	100	8377	54450	21
Bengaluru (Rural)	1,128,859	1.62	2301.00	56	0	0	20158	0	41
Bengaluru (Urban)	10,960,871	15.70	2195.00	9416	25	1680	1164	6524	0
Bidar	1,940,399	2.78	5454.00	62	0	0	31297	0	88
Chamarajanagara	1,162,885	1.67	5639.00	11	0	0	105717	0	513
Chikkaballapura	1,429,814	2.05	4251.00	43	0	0	33251	0	99
Chikkamagaluru	1,296,365	1.86	7209.00	50	0	0	25927	0	144
Chitradurga	1,890,452	2.71	8435.00	49	0	0	38581	0	172

Dakshina Kannada	2,380,5 28	3.4 1	4845.00	552	3	14 0	4313	1700 4	9
Davanagere	2,216,3 10	3.1 8	4480.00	103	0	0	21518	0	43
Dharwad	2,104,1 29	3.0 1	4255.00	570	2	12 0	3691	1753 4	7
Gadag	1,212,7 58	1.7 4	4656.00	58	0	0	20910	0	80
Hassan	2,923,5 59	4.1 9	6818.00	67	0	0	43635	0	102
Haveri	2,023,6 99	2.9 0	4818.00	41	0	0	49359	0	118
Kalburgi	1,820,0 63	2.6 1	10974.0 0	388	2	12 0	4691	1516 7	28
Kodagu	631,70 8	0.9 1	4113.00	71	0	0	8897	0	58
Kolara	1,750,2 68	2.5 1	3990.00	44	0	0	39779	0	91
Koppal	1,583,3 97	2.2 7	5576.00	20	0	0	79170	0	279
Mandya	2,057,1 32	2.9 5	4955.00	29	0	0	70936	0	171

Mysuru	3,418,8 84	4.9 0	6311.00	494	4	24	6921	1424 5	13
Raichur	2,197,3 03	3.1 5	8470.00	40	0	0	54933	0	212
Ramanagar a	1,233,3 39	1.7 7	3528.00	34	0	0	36275	0	104
Shivamogg a	1,996,7 36	2.8 6	8473.00	117	0	0	17066	0	72
Tumakuru	3,051,8 94	4.3 7	10603.0 0	181	2	70	16861	4359 8	59
Udupi	1,341,2 50	1.9 2	3571.00	289	1	20	4641	6706	12
Uttara Kannada	1,637,2 23	2.3 5	10297.0 0	109	0	0	15020	0	94
Vijayanaga ra	198,09 1	0.2 8	5668.00	26	0	0	7619	0	218
Vijayapura	2,480,4	3.5	10503.0	215	2	40	11537	6201	49

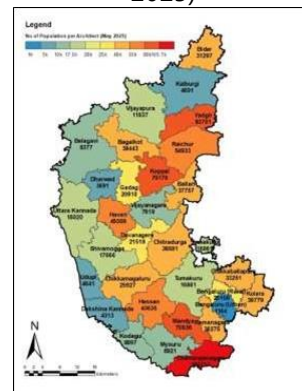
	15	5	0					0	
Yadgir	1,337,7	1.9	5276.00	21	0	0	63701	0	251
	30	2							
	69,797,	100	191870.	13936.	44	27			
	852	.0	0	0		30			

Figure 21: District-wise No. of Architects



Source: Council of Architecture website

Source: Council of Architecture website
Figure 23: No. of Population per Architect (May 2025)



Source: Council of Architecture website

Figure 22: No. of Population per B Arch Seat (May 2025)

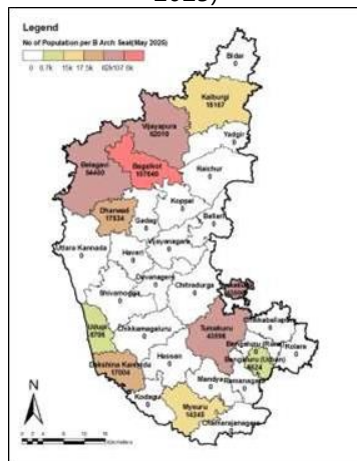
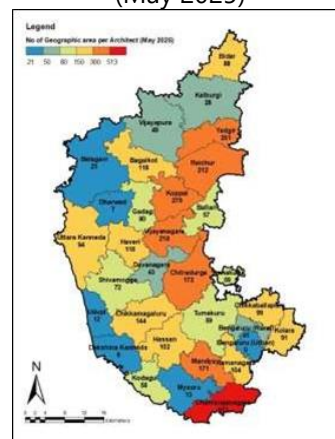


Figure 24: No. of Geographic area per Architect (May 2025)



Source: Council of Architecture website

Academic Framework of Architectural Institutions in Karnataka

Karnataka has a wide variety of 44 architecture colleges, with many located in Bangalore, which contains more than half of these schools. Notable government institutions include UVCE, SPA Mysore, and PDA Kalaburagi, while private institutions include RV, BMS, and MS Ramaiah. The increased

number of colleges compared to pre-2010 suggests growing demand. Furthermore, the few number of colleges in many of the districts outside of Bangalore, such as Vijayapura, Belgaum, and Tumkur, and the lack of representation within the districts, point to some systemic disadvantages in that form of education.

Table 3: Academic Framework of Architectural Institutions (May 2025)

Sl.no	College Name	Year of Est.	Subjects offered	Academic Level	Classification	Location
1.	University Visvesvaraya College of Engineering	1967	AR, LA, C&PM	UG, PG	Govt.	Bangalore
2.	Manipal School of Architecture and Planning	1978	AR, UD, ID, FD, SD, PD	UG, PG and PhD	Pvt / Deemed	Manipal
3.	Department Of Interior Design, Manipal University- Dubai Campus, Dubai (UAE)	2012	AR, ID, SD	UG, PG	Pvt / Deemed	Manipal-Dubai
4.	BMS College of Architecture	1980	AR, ID, HD	UG, PG and PhD	Pvt. - Aided	Bangalore
5.	RV College of Architecture	1992	AR, UD	UG, PG and PhD	Pvt.	Bangalore
6.	MS Ramaiah Institute of Technology	1992	AR, LA	UG, PG and PhD	Pvt.	Bangalore
7.	Mysore school of architecture	2014	AR	UG	Pvt.	Mysore
8.	BLDEA College of Architecture	1991	AR	UG	Pvt.	Bijapur
9.	SPA, University of Mysore	2015	AR, UD, MURP	UG, PG	Govt.	Mysore
10.	K S School of Architecture	2015	AR	UG	Pvt.	Bangalore
11.	GITAM School of Architecture	2011	AR.	UG	Pvt.	Bangalore
12.	Dayananda Sagar College of Architecture	1991	AR, ID	UG, PG and PhD	Pvt.	Bangalore

13.	Aditya Academy of Architecture & Design	2015	AR	UG	Pvt.	Bangalore
14.	Impact School of Architecture	2013	AR, DA	UG, PG	Pvt.	Bangalore
15.	Acharya's NRV School of Architecture	2009	AR	UG	Pvt.	Bangalore
16.	BGS School of Architecture and Planning	1997	AR	UG	Pvt.	Bangalore
17.	Gopalan School of Architecture and Planning	2014	AR, C&PM	UG, PG and PhD	Pvt.	Bangalore
18.	KLE Technological University – School of Architecture	2011	AR	UG, PhD	Pvt.	Hubballi
19.	School of Architecture, REVA University	2015	AR, DA	UG, PG	Pvt / Deemed	Bangalore
20.	Wadiyar Centre for Architecture	1957	AR, SA	UG, PG	Pvt.	Mysore
21.	R R School of Architecture	2014	AR	UG	Pvt.	Bangalore
22.	SJB School of Architecture & Planning	2013	AR, C&PM	UG, PG and PhD	Pvt.	Bangalore

23.	Beary's Enviro- Architecture Design School (BEADS)	2015	AR	UG	Pvt.	Mangalore
24.	Gogte institute of technology (GIT) School of Architecture	1998	AR	UG	Pvt.	Belgaum
25.	Alva's Institute of Engineering and Technology – Architecture Dept.	2017	AR	UG	Pvt.	Moodbidri
26.	Angadi School of Architecture	2016	AR	UG	Pvt.	Belgaum
27.	BGS School of Architecture & Planning (Kengeri campus)	2013	AR, SD	UG, PG	Pvt.	Bangalore
28.	Jain School of Architecture, Design & Planning	2018	AR	UG	Pvt / Deemed	Bangalore
29.	Kristu Jayanti College of Architecture	2019	AR	UG	Pvt.	Bangalore
30.	HKBK College of Architecture	2019	AR	UG	Pvt.	Bangalore

31.	GSSS School of Architecture for Women	2020	AR	UG	Pvt.	Mysore
32.	Malik Sandal Institute Of Art & Architecture	1991	AR, C&PM	UG, PG and PhD	Pvt.	Vijayapura
33.	R N S School of Architecture	2017	AR	UG	Pvt.	Bangalore
34.	CMR University School of Architecture	2015	AR	UG	Pvt / Deemed	Bangalore
35.	Nitte Institute of Architecture, Planning & Design (NSAPD)	2015	AR, MURP	UG, PG	Pvt / Deemed	Bangalore
36.	PDA College of Engineering – Dept. of Architecture	1984	AR	UG	Govt.-Aided	Kalaburagi
37.	K S Institute of Technology – School of Architecture	2015	AR	UG	Pvt.	Bangalore

38.	The Oxford School of Architecture	2012	AR	UG	Pvt.	Bangalore
39.	BMS School of Architecture	2010	AR, UD	UG, PG and PhD	Pvt.	Bangalore
40.	Nitte Institute of Architecture	2015	AR	UG	Pvt.	Mangalore
41.	PES College of Architecture	2013	AR	UG	Pvt.	Bangalore
42.	School of Architecture, Christ University	2017	AR, UD	UG, PG and PhD	Pvt / Deemed	Bangalore
43.	Siddaganga Institute Of Technology	1992	AR	UG, PhD	Pvt.	Tumkur
44.	HMS Institute of Technology	2015	AR	UG	Pvt.	Tumkur

Source: Author

** AR – Architecture, LA- Landscape Architecture, C&PM – Construction and Project Management, UD - Urban Design, ID - Interior Design, FD - Fashion Design, SD - Sustainable Design, PD - Product Design, HD – Habitat Design, DA – Digital Architecture.

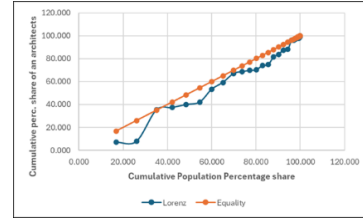
Results and Discussion Dispersion of Registered Architects using Lorenz and Gini Coefficient Analysis

The Lorenz curve represents a graphical method for examining dispersion by plotting the degree of deviation of an actual distribution from the line of equal distribution (Cowell, 2011; Ray, 1998).

The larger the distance of the Lorenz curve from the line of equal distribution, the greater the level of inequality within the data series.

In the case of India, the Lorenz curve has a most significant deviation from the egalitarian line, as depicted in Figure 25, showing a high level of equality. India's low Gini coefficient of 0.151 for

architects indicates near-equal distribution of architects in India, as calculated in Table 4. Despite a downtrend in colleges and enrollments in architecture, each state still appears relatively equally representative in registered architects.



Source: Author (2025)

Figure 25: Lorenz curve for measuring inequality of architects in India (Gini coefficient 0.151 – Perfect Equality)

Table 4: Tabular analysis of Registered Architect Dispersion Across Indian States (2025)

State/UT	Pop.. Share %	Reg Architects Share%	Architect/pop .	Cumulative Pop. Perc. Share	Cumulative per cent. Reg architects share	Area Under Curve
Uttar Pradesh	16.850	7.063	0.419	16.850	7.063	0.000
Bihar	9.177	0.787	0.086	26.028	7.850	0.684
Maharashtra	8.986	27.380	3.047	35.013	35.230	1.935
West Bengal	7.090	2.121	0.299	42.103	37.351	2.573
Madhya Pradesh	6.368	2.648	0.416	48.471	39.999	2.463
Rajasthan	6.098	2.109	0.346	54.568	42.109	2.503
Tamil Nadu	5.405	11.200	2.072	59.974	53.309	2.579
Gujarat	5.102	6.015	1.179	65.076	59.323	2.873
Karnataka	4.797	7.738	1.613	69.872	67.062	3.031
Andhra Pradesh	3.944	1.635	0.415	73.816	68.696	2.677
Odisha	3.279	1.064	0.325	77.095	69.761	2.270
Jharkhand	3.069	0.491	0.160	80.165	70.251	2.149
Telangana	2.759	3.808	1.380	82.923	74.059	1.990
Assam	2.612	0.725	0.277	85.536	74.784	1.945
Kerala	2.452	6.924	2.824	87.988	81.708	1.919
Punjab	2.172	1.939	0.893	90.160	83.647	1.796
Haryana	2.162	3.868	1.789	92.322	87.514	1.850
Chhattisgarh	2.098	0.868	0.414	94.421	88.382	1.846
Delhi	1.556	7.598	4.883	95.976	95.980	1.433
Jammu & Kashmir	1.034	0.346	0.334	97.011	96.326	0.995
Uttarakhand	0.832	0.781	0.938	97.843	97.106	0.805

Himachal Pradesh	0.497	0.557	1.120	98.340	97.663	0.484
Tripura	0.302	0.044	0.147	98.642	97.707	0.295
Meghalaya	0.240	0.130	0.541	98.881	97.837	0.234
Manipur	0.230	0.122	0.532	99.111	97.959	0.225
Nagaland	0.167	0.076	0.457	99.278	98.035	0.164
Puducherry	0.121	0.230	1.903	99.399	98.265	0.119
Arunachal Pradesh	0.111	0.067	0.605	99.510	98.333	0.109
Goa	0.111	0.710	6.419	99.621	99.042	0.110
Dadra and Nagar Haveli and Daman and Diu	0.103	0.055	0.530	99.724	99.097	0.102
Mizoram	0.088	0.125	1.417	99.812	99.222	0.087
Chandigarh	0.084	0.646	7.683	99.896	99.868	0.084
Sikkim	0.049	0.082	1.673	99.945	99.950	0.049
Andaman and Nicobar Islands	0.029	0.038	1.321	99.974	99.988	0.029
Ladakh	0.021	0.008	0.383	99.995	99.996	0.021
Lakshadweep	0.005	0.004	0.768	100.000	100.000	0.005
<p>Tot. Area Under Lorenz curve = 42.432 Area under the Equality line = 50 Area between Equality and Lorenz = 50 – 42.432 = 7.567 Gini Coefficient = 7.567/50 = 0.151 (representing perfect equality)</p>						
<p>Note: The Gini index is used to measure the inequality of geographical place of architects across states/UTs, the categories of: <0.2 = perfect equality, 0.2-0.3 = relative equality, 0.3-0.4 = adequate equality, 0.4-0.5 = large architect gap, >0.5 = severe architect gap.</p>						

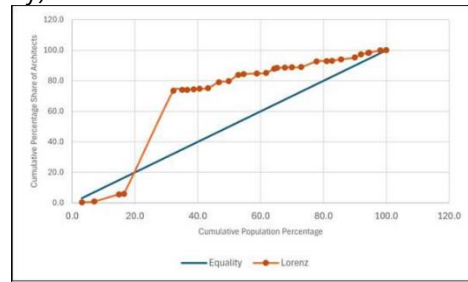
Dispersion of Registered Architects using Lorenz and Gini Coefficient Analysis

The data and Lorenz Curve analysis display a very significant spatial disparity among districts in Karnataka for registered architects, as depicted in

Figure 26, to the tune of a Gini Coefficient of 0.98. This is a very high Gini Coefficient, as it circumvents the upper value of 1, which indicates extremely disparate distribution where few districts hold the majority of the state's architects. For example,

Bengaluru Urban contains 67.6% of the state's registered architects, while owing to the total population of 15.7% is over the rest of the state. The area under the Lorenz Curve itself is recorded at 0.656 as calculated in table 5, which is significantly lower than the area under the line of equality (50), which indicates that a great number of areas/districts, even though they hold a relatively decent population share a very low representation of architects. In the districts of Bagalkot, Ballari, Chamarajanagara, Koppal and Yadgir, the areas contribute to a significant population share of the state; however, we see a very negligible area of architects, also about a negligible representation of registered architects, signifying serious issues of accessibility.

Figure 26: Lorenz curve for measuring inequality of architects in Karnataka (Gini coefficient 0.98 – severe disparity)



Source: Author (2025)

Table 5: Tabular analysis of Registered Architect Dispersion Across Karnataka districts (May 2025).

District	% Share	Reg Architects Share %	Cumulative Pop. Perc. Share	Cumulative perc. Reg architects share	Area Under Curve
Bagalkot	3.1	0.4	3.1	0.4	0.000
Ballari	4.0	0.5	7.1	0.9	0.000
Belagavi	7.8	4.7	14.9	5.6	0.003
Bengaluru (Rural)	1.6	0.4	16.5	6.0	0.001
Bengaluru (Urban)	15.7	67.6	32.2	73.6	0.062
Bidar	2.8	0.4	35.0	74.0	0.021
Chamarajanagara	1.7	0.1	36.7	74.1	0.013
Chikkaballapura	2.0	0.3	38.7	74.4	0.015
Chikkamagaluru	1.9	0.4	40.6	74.8	0.014
Chitradurga	2.7	0.4	43.3	75.1	0.020
Dakshina Kannada	3.4	4.0	46.7	79.1	0.026
Davanagere	3.2	0.7	49.9	79.8	0.025
Dharwad	3.0	4.1	52.9	83.9	0.025
Gadag	1.7	0.4	54.6	84.3	0.014
Hassan	4.2	0.5	58.8	84.8	0.036
Haveri	2.9	0.3	61.7	85.1	0.014
Kalburgi	2.6	2.8	64.3	87.9	0.034
Kodagu	0.9	0.5	65.2	88.4	0.008
Kolar	2.5	0.3	67.7	88.7	0.022
Koppal	2.3	0.1	70.0	88.8	0.020

Mandya	2.9	0.2	72.9	89.0	0.026
Mysuru	4.9	3.5	77.8	92.6	0.045
Raichur	3.1	0.3	81.0	92.9	0.030
Ramanagara	1.8	0.2	82.7	93.1	0.016
Shivamogga	2.9	0.8	85.6	94.0	0.027
Tumakuru	4.4	1.3	90.0	95.3	0.046
Udupi	1.9	2.1	91.9	97.3	0.012
Uttara Kannada	2.3	0.8	94.2	98.1	0.025
Vijayanagara	0.3	0.2	94.5	98.3	0.003
Vijayapura	3.6	1.5	98.1	99.8	0.036
Yadgir	1.9	0.2	100.0	100.0	0.019
					0.656
<p>Tot. Area Under Lorenz curve = 0.656 Area under the Equality line = 50 Area between Equality and Lorenz = 50 – 0.656= 49.344 Gini Coefficient = 49.344/50 = 0.98 (Severe disparity in architect distribution)</p>					
<p>Note: The Gini index is used to measure the inequality of geographical place of architects across states/UTs, the categories of: <0.2 = perfect equality, 0.2-0.3 = relative equality, 0.3-0.4 = adequate equality, 0.4-0.5 = large architect gap, >0.5 = severe architect gap.</p>					

The Gini coefficient (which is a measure of inequality, with 0 indicating equality and 1 indicating inequality) presents some distinctive conclusions about the distribution of registered architects. Taken as a whole, India has a Gini coefficient of 0.151 for registered architects, suggesting that the distribution is nearly equal and there is a relatively uniform distribution across the country. Karnataka,

on the other hand, has a Gini coefficient of 0.98, indicating that there is a massive inequality and disparity in terms of the distribution of architects between different areas (regions of Karnataka). While this finding is concerning, it largely implies that the architects in this district might be concentrated in minor areas, likely major urban centres, whilst leading to uneven access to

architectural services and a potential for uneven rate of development.

IV. CONCLUSION

Karnataka's architectural educational context is characterised by a wealth of history, a large number of institutions, and a large imbalance in the location and number of colleges, consequently, the number of registered architects. Bengaluru Urban, as the state capital, is a dominant and complex regional centre which has over half of Karnataka's 44 architecture colleges and 68% of the state's proportion of registered architects. While the dominant centrality of architecture colleges and professionals manifests itself as an advantage for architectural service and education in Bengaluru, it exposes severe inequities in the number of colleges and registered Architects in many other districts of Karnataka. While Bengaluru's several government institutions like UVCE, as well as private institutions such as RV and BMS, support a vibrant operational academic environment for architects, other districts of Karnataka are at a significant disadvantage. Districts such as Ballari, Bidar, Raichur, and Mandya, which have significant populations, have no architecture colleges giving them incredibility high population to architect and population to seat ratios. Other districts such as Vijayapura, Belgaum, Chamarjagara, and Tumkur have some architecture colleges but also have an insignificant population representation of registered architects. The two illustrations of spatial disequilibrium in architects and education to population ratios across Karnataka shows a need for a more equitable structure of systems around architectural education and practice.

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