



Preparing Architectural Education for Atmanirbhar Bharat

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Abstract - India is urbanizing at a rapid rate. This rapid urbanization is essential for the growth of economic opportunities but the built-environment is facing crucial challenges. Atmanirbhar Bharat Abhiyan coupled with the creative spirits of good architects will help to realize the true potential of urbanization for a sustainable and prosperous future for India. Architecture education and practice should transform and develop to accommodate the needs of an Atmanirbhar Bharat. Institutions in India should have reciprocal arrangements with other countries and thus expand the opportunities of the student to gain a broader experience in an increasingly globalized profession. Architecture education should also be internationally validated with direct evidence of student learning. There should be a paradigm shift in the design of Education towards developing professionals with the ability to understand and use local knowledge, traditional knowledge, and emerging technologies while being cognizant of critical issues such as climate change. Architectural practice requires becoming financially competitive and technologically challenging to keep up with the international standards of design and delivery.

Keywords - Atmanirbhar Bharat; Architecture; Education; OBE; Practice.

INTRODUCTION

India has a population of 1.34 billion which is growing at a rate of 1.17% with an urbanization rate of 2.28%.[1] India's urban population has grown five-fold in the last half century to approximately 430 million inhabitants in 2015 and the number is expected to rise to 600 million by 2030, accounting for 40% of India's population.[2] 5 of the top 20 emerging cities in the world, namely, New Delhi, Mumbai, Bangalore, Kolkata and Chennai are in India.[1] This rapid urbanization is essential for the growth of economic opportunities but the built environment is facing important challenges such as outdated building regulations, poor

spatial planning, urban sprawl, poor public transport, lack of investment in infrastructure and affordable housing, land shortage, and climate change. The New Urban Agenda, Habitat III, Ecuador, 2016 calls for government to ensure sustainable and inclusive urban economies by leveraging the agglomeration benefits of well-planned urbanization.

Atmanirbhar Bharat Abhiyan coupled with the creative spirits of good architects will help to realize the true potential of urbanization for a sustainable and prosperous future and will support in making India "a bigger and more important part of the global economy." The main goal of Atmanirbhar Bharat is for India to become self-sufficient though not a self-centered system. It will aid in pursuing policies that are efficient, competitive and resilient, thus making India a self-sustaining and self-generating country. An Atmanirbhar Bharat is necessary to fulfill the dream of making the 21st century an Indian century, i.e. a century dominated by India. It will help in creating an eco-system that will allow Indian companies to become competitive in the global market. It aims to make the country and its citizens independent and self-reliant in all senses. The five pillars of Atmanirbhar Bharat are Economy, Infrastructure, Systems, Vibrant Demography, and Demand. This will require research and development, and mindset to make a creative, innovative and learning society.[3] Architecture education and practice should transform and develop to accommodate the needs of the strong foundation for an Atmanirbhar Bharat.

ARCHITECTURE

Architecture is a profession which has to be embraced very carefully as it allows the architect to transform the environment, built and un-built. It deals with everything that surrounds us, the *Pancha bhootas, the air, water, fire, earth and light*. Architects in association with planners and engineers have



an important role in the design of well-planned cities which can contribute to the economic, socio-cultural, civic, and environmental development of a nation.[2] The Guidelines for the UIA Accord on Recommended International standards of Professionalism in Architecture Practice Policy on Ethics and Conduct defines architecture as a liberal profession and architects being obligated to the highest standards of independence, impartiality, professional confidentiality, integrity, competence and professionalism and committed to provide the highest possible quality of design, and other deliverables. It also states that architects must bring to the society special and unique knowledge, professional skills, and aptitudes essential to the development of the built environment and to those societies and cultures in which such development take place.” [4]

Architects such as Charles Correa, BV Doshi, Joseph Allen Stein, and Laurie Baker rose to become masters achieving international recognition, designing in a language which is modern yet rooted to the Indian context. An architecture which celebrates the spirit of India while competing globally will lead the way to an Atmanirbhar Indian Architecture.

Architecture Education

The UNESCO-UIA Charter for Architectural Education states that Architectural Education constitutes some of the most significant environmental and professional challenges of the contemporary world and that the educators must prepare architects to formulate new solutions for the present and the future. Social and functional degradation of many human settlements will create severe and complex problems. [5] Architectural education is not just a simple matter of information dissipation but it deals with the entire life and living of man and his societies, continuing traditions and his developmental progress. [6] Architectural education is an amalgamation of a myriad of studies, extending from materials, climatology, drafting, sketching, design, and services to history, sociology, and philosophy. An education which is embedded in the true Indian heritages and inculcates the need of the 21st century can pave a way forward.

A. Current state of Architecture Education in India

The Council of Architecture (CoA) is bestowed with the responsibility to regulate the education and the practice of the profession of

architecture throughout India. There are 471 institutions imparting education in Architecture in India. The standards of education being imparted in these institutions is currently governed by the Council of Architecture’s Minimum standards of Architectural education Regulations, 2020, which set forth the minimum requirements of eligibility for admission, course duration, standards of staff and accommodation, course content, examination, etc. [7] The significant increase in the number of architectural schools during the late 2000’s without upholding the Council of Architecture’s Minimum standards of Architectural education has lowered the overall quality of architectural education.

Table 1 - Status of Institutions

Year	No. of institution	New institution approved	Institutions closed/ zero intake/ restored	Total number
2006-07	127	10	0	137
2007-08	137	4	2	139
2008-09	139	7	13	133
2009-10	133	25	6	152
2010-11	152	27	-7	186
2011-12	186	60	12	234
2012-13	234	67	-1	302
2013-14	302	35	0	337
2014-15	337	52	10	379
2015-16	379	64	20	423
2016-17	423	33	-2	458
2017-18	458	22	12	468
2018-19	468	20	11	477
2019-20	477	15	29	463

Source - Perspective Plan for growth of Architectural Education in India, Council of Architecture

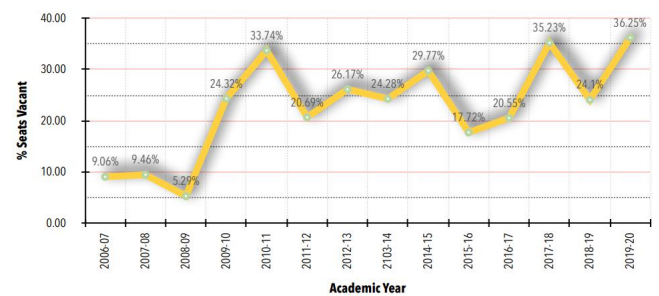


Figure 1- Percentage of seats vacant (Source - Perspective plan for growth of Architectural Education in India, COA)

Table 1 shows the unprecedented increase in the number of new institutions and the consequent increase in the number of institutions closed/ put on zero intake. Figure 1 shows the percentage of seats that are vacant in various institutions together. The Perspective Plan for Growth of Architecture Education approved and adopted by the



Council of Architecture (2020) proposes only a check on the allotment of new institutions based on categories of states created on the basis of the average ratio of architects to inhabitants. [8]

Very few institutions in India have reciprocal arrangements with other countries and thus limit the opportunities of the student to gain a broader experience in an increasingly globalised profession. Although a student can apply to study overseas for architecture education, but the tuition fees are very expensive and thus can be afforded only by the rich and prosperous.

B. International Validation / Accreditation

The Council of Architecture (CoA) oversees the maintenance of the architecture education standards for about 500 institutions in India, periodically by way of conducting inspections through committees of peer experts against a checklist prescribed by the document 'Minimum Standards of Architectural Education.' Even though the works of the students are also evaluated by the peer experts in addition to the checklist as prescribed by the Council of Architecture, there is no direct evidence of student learning and these need to be included for transparency and quality assurance but the methodology does not have an international recognition /validation. The Commonwealth Association of Architects (CAA) is a membership organisation for professional bodies representing architects in Commonwealth countries.[10] The association sets procedures for the validation of courses in architecture against set criteria. But neither the Indian Institute of Architects (IIA) or the Council of Architecture (CoA) is a member currently.

The UNESCO-UIA Charter for Architectural Education, the UIA Accord on Recommended International standards on Professionalism in Architectural Practice and the Canberra Accord on Architectural Education are documents employed by various accreditation/validation agencies in architectural education. The National Board of Accreditation, India, the only body which accredits programmes is only a signatory to the Washington accord responsible for accrediting undergraduate engineering programs. The various international accreditation agencies such as the National Architectural Accrediting Board in USA, the Canadian Architectural Certification Board, Royal Institute of British Architects, the Architects Accreditation Council of Australia,

and the Korean Architectural Accrediting Board have various Performances Criteria for both the program and the student. Each accreditation agency has a formal evaluation process for assessment of student achievement, which is based primarily on the concept of outcomes based education. All agencies have a framework for the documentation and demonstration of the results of the assessment. India's demographic dividend will be a key for its growth in the future. This can only be utilized effectively by the students of architecture if the B.Arch course is adept to the 21st Century skills, and is validated to international standards also.

C. National Education Policy (NEP) 2020

The aim of education in ancient India was not just the acquisition of knowledge as preparation for life in the world but for the complete realization and liberation of the self. The rich heritage of ancient and eternal Indian knowledge and thought has been the guiding light for the National Education Policy (NEP) 2020. The preparation of professionals must involve an education in the ethics and importance of public purpose, an education in the discipline, and an education for practice. It must centrally involve critical and interdisciplinary thinking, discussion, debate, research, and innovation. [12]

The National Education Policy calls for a paradigm shift in the design of Education towards developing professionals with the ability to understand and use local knowledge, traditional knowledge, and emerging technologies while being cognizant of critical issues such a climate change for our growing population. It needs to be competitive globally, adopting best practices and embracing new and appropriate technologies for wider access. It must reflect socio-cultural contexts in an evidence based manner. It should be re-envisioned to match the varied roles that an architect needs to address in the society. Indian Knowledge Systems, including indigenous and traditional systems are to be included.

D. The Way Forward

There needs to be a significant paradigm shift in the traditional output based education system. The traditional uniformity that was part of learning doesn't any longer have the same power or sense of purpose. It won't work effectively in order to educate people to their potential or enable them to be useful in



society. But the current times require a new Learning, a Reflexive and Transformative pedagogy for the networked knowledge society.[14] The new learning needs to be dynamic with greater emphasis on learner engagement, with learners acknowledged as knowledge constructors and as active knowledge makers. It should be passion driven. The society needs the students to understand about Knowledge, Skills, and Attitudes / Sensibilities. Architecture education should instill various skills and abilities such as creativity, critical thinking, collaboration, problem solving, leadership, cross-cultural communication, information management, and technology advancements. The diverse representation in classrooms, the students' unique educational, cultural, linguistic and social backgrounds, and their multiple perspectives should help in the proliferation of Intercultural Competence. Cultural self-awareness, empathy, and openness can bridge the gap. All learners should be understood in their differences, in their own sense of identity, and the orientations that they bring to learning.

Outcome Based Education (OBE) begins with the end in mind with clearly defined educational goals or outcomes set for each course and program that is aligned to the Graduate Attributes. The basic characteristics of OBE being remediation and enrichment for students would give every opportunity available to master the content, irrespective of their differences, and to meet the absolute standards. The design of the curriculum, learning strategies, and learning opportunities should be such as to ensure the achievement of the learning outcomes and to enhance student learning.

Architecture Practice

India is in a stage of development wherein huge amounts of investment are pouring into the building industry and opportunities of growth are increasing. Architectural practice requires becoming financially competitive and technologically challenging to keep up with the international standards of design and delivery. [13] Figure 2 shows the ratio of inhabitants to architects. Very few States and Union Territories have low ratios, i.e. less than 10,000 persons/architect. The state with the highest ratio is Bihar, with 201792 persons/architect, which is also a backward state in terms of economic development. In developed economies such as the USA and the

UK, the ratios are much lower, i.e. lesser than 2000 persons/architect. India is urbanizing rapidly with vulnerable issues. The lack of educational, institutional and professional capacity has important consequences such as weak policies, unsustainable development, unhealthy and ill-designed spaces, and loss of identity and cultural values.

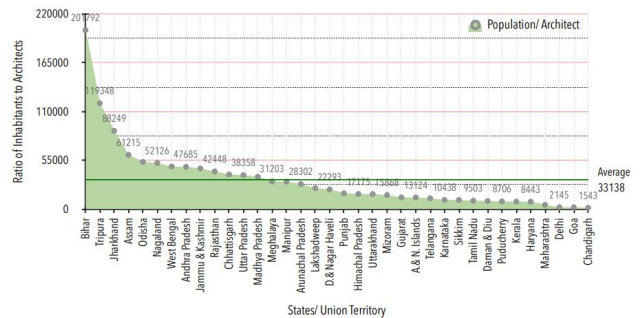


Figure 2- Ratio of inhabitants to Architects (Source - Perspective plan for growth of Architectural Education in India, COA)

The architectural profession faces many challenges such as lack of respect, establishing standards of design, insufficient opportunities, outdated building regulations, corruption, poor enforcement of existing building codes and schedule of fees, and the understatement of the role of the architect in the community. Continuing Professional Development is essential as architects develop their career and need to be abreast with technological advancements, material innovations, and to learn new skills for higher expertise. But are our institutions equipped enough to take up this challenge and additional burden.

CONCLUSIONS

The profession of Architecture can only realize it's true potential for the development of the country when both the education and the practice are aligned towards the need of delivering international quality architecture that rejuvenates the essence of the varied culture and heritage of the sub-continent. There should be a proper connect between academic education and professional context. This transformation is fundamental for achieving full human potential for a diverse, equitable, and inclusive society and for the nation's development. The minimum standards made mandate by the Council of Architecture, the apex body of the controlling the education scenario in the country is only the minimum bench mark to be attained by an institution to continue with education. While most of the institutions in India maintain only these



minimum standards for obtaining extension of approval by the Council of Architecture, without exploring ways and means to go ahead of this minimum bench mark. New ways and means are to be discovered so that Minimum standards 2020 can embrace NEP 2020 and take Architecture Education ahead to meet the global standards and thus attain the standards to meet the settings of Atmanirbhar Bharat.

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