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Trend in Access and Equity in Engineering Education–Karnataka's Perspective

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***Abstract*: Education plays vital role in the socio-economic development of India. India since the early days of independence has always focused on improving the literacy rate in our country. Even today the government runs many programs to promote Primary and Higher Education in India. It is a generally accepted conviction that development requires an ever increasing level of education in the population. According to report of "Intergenerational and Regional Differentials in Higher Education in India" (2014), access to education beyond higher secondary schooling is a mere 10% among the university-age population in India. The report says that a huge disparity exists — as far as access to higher education is concerned — across gender and socio-economic religious groups. The skew is most marked across regions. A dalit in south India, though from the most disadvantaged among communities, would have better access to higher education than even upper caste Hindus in many other regions. The report says that, South India offers the best opportunities for socially inclusive access to higher education including technical education. For instance, the share of SC/ST in technical education in south India is about 22%. But, according to pilot study conducted by researcher, the ground reality was different; the admission of SC&STs to PG engineering programme tells a disappointing story. Many private engineering colleges increased their tuition fees to offset the losses of capitation fees. They are able to ensure that meritorious students without money would never get admission. The tuition fee is fixed arbitrarily to cater to only rich or super rich students. In the backdrop of this result, the researcher felt it is necessary to undertake an in-depth study to examine the access and equity of SC &STs to PG engineering course in the state of Karnataka. The researcher has made an attempt to examine the access and equity of SC &STs to PG engineering course in the state of Karnataka. The paper is primarily concerned with access and equity in PG engineering course by social groups—caste and by gender. This paper is trying to give a thoughtful view to those concerned with inclusive higher education. It provides suggestions for the inclusion of SC &ST students in the Higher education system.**

***Keywords*: Access, Engineering Education, Equity, SC, ST.**

1. Introduction

Karnataka is considered as one of the leading hub of engineering education in India. Government of Karnataka has also launched innovative schemes and programmes for promotion of engineering education in Karnataka. Some of the important schemes launched by GOK include: a) Grant for Foreign Study for SCs & STs b) permitted universities/colleges to increase intake capacity without permission of government subject to condition that 25 per cent of increased seats should be provided for SCs, STs and OBCs. c) Direct Scholarship Transfer Scheme, etc. On the other side, government has succumbed to lobby of private educational institutions and had allowed them to increase the fee to the tune of 25 per cent for PG engineering courses under government quota. The government share of seats in engineering colleges has been decreasing gradually over the years. It was 85:15 in 1994-95, but it is now reduced to 40:60. These developments are expected to have negative impact on gross enrolment ratio of SC & STs for PG engineering course. It may be difficult for the State Government to achieve a target GER of 35 per cent set by it. In this backdrop and as responsive researcher, I have undertaken a research work on Trend in Access and Equity in Engineering Education.

2. Statement of the Problem

Access to higher education has remained poor despite the massive expansion of the higher education sector in the country. The scenario is not different in Karnataka. It was observed that the Government of Karnataka has succumbed to lobby of private educational institutions and allowed them to increase the fee to the tune of 25 per cent for engineering course under government quota. The government share of seats in engineering colleges has been decreasing gradually over the years. It was 85:15 in 1994-95, but it is now reduced to 40:60. These developments are expected to have negative impact on gross enrolment ratio of SC & STs for PG engineering course. The enrollment ratio of SC & ST for masters' programme is estimated to be just 1 percent of students pursuing under-graduate courses. The low GER of SC & ST in higher education is a matter of concern. Therefore, it is necessary to investigate awareness level about the PG engineering course among SC & ST, awareness about schemes launched by both central and state governments, reasons for non-pursuance of PG engineering course, Impact of various initiatives on access and equity and to understand entry barriers to higher education. Therefore, the researcher felt it is an appropriate time to take up

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the present research study.

3. Research Questions

The project aims to address following questions:

a) What are the entry barriers to PG engineering course?
b) What is the role of private engineering colleges in ensuring access & equity in PG engineering course?
c) What is the awareness level about Equity & Access among SC & St Students?

4. Hypothesis

The researchers tried to address the above research questions. In order to address research questions the following hypotheses have been formulated:

Hypothesis No.1

H1: Majority of the SC&ST Students said that Equity in PG engineering course is not dined

Hypothesis No.2

H1: Majority of the SC&ST Students said that Faculty Members have not denied interaction

Hypothesis No.3

H1: Majority of the SC&ST Students said that Non-SC&ST Students have not maintained detachment with them

Hypothesis No.4

H1: Majority of the SC&ST Students said that Access to PG engineering course was not prevented

5. Objectives of the Study

The present study is intended to achieve following objectives:

1) To study the socio-economic status of the students admitted in PG engineering course.
2) To identify the entry barriers to PG engineering course.
3) To measuring degree of equity and access of SC & ST in PG engineering course.
4) To measure the impact of various initiatives on access and equity.
5) To offer policy recommendations based on findings for inclusive growth.

6. Literature Review

Severino Machingambi is of the view that access to higher education in South Africa is imperative but it should be backed up by quality education. Gita Steiner-Kbamsi & Amgaabazar Gerebnaa made an attempt to study the four targets groups that are specific to the achievement of the EFA Millennium Development Goals in Mongolia: boys, out-of-school children, vulnerable children and minorities, and children of herders. According to them, boys from herder families in remote rural areas are at the greatest risk of drop-out or non-enrollment. Ritimoni Bordoloi is of the view that education constitutes the foundation of all the multidimensional socio-economic development of a country. The Government of India has taken several many initiatives for promoting higher education. But still India is facing issues of high dropout rate. Rural-urban disparity, gender disparity, interstate variations are some of the problems that impede the development of human resources in the country. The existing general and conventional higher educational institutions have not effectively been able to cope with the contemporary challenges and changes with the result that the nature of curriculum which is by and large in place tends to create only degree inflation in the country. He had suggested ways and means of promotion of accessibility of higher education and strengthening higher education system in the country. Ajmal Khan in his research work entitled “Higher Education and Social Mobility among Muslims and Dalits in India: A Comparative Perspective in the Globalised Times” made an attempt to see how globalization has impacted the higher education of Muslims and Dalits in India in a comparative and historic perspective. Based on the different secondary data sets, he tries to show how Dalit community across India has utilized the process of globalization and achieved educational and social mobility higher than Muslims. Muslims as a homogeneous group didn't take part in the educational development, especially in the higher educational arena where the Scheduled Castes have acquired the benefits with the historical interventions that are taking place in the pre-globalization era. The growth process of attaining higher education by the community was slower than any other socio-religious community. He also tried to see and understand the double burden and deprivation imposed by the Globalization on the Indian Muslims because of lack of overall educational development among the community and alienation from the whole process. According to Gujju Umamaheswara Rao good governance is imperative and pre-requisite to ensure access, equity and quality in higher education. But ensuring good governance is a big challenge for government.

As it is evident from the literature review that no study has been conducted to understand reasons for non-pursuance of master programmes by SC & ST students, awareness about access and equity indicators among SC & ST students, etc. This research gap has motivated researcher to take up the present study.

7. Research Methodology

Sample Size:

All the engineering colleges located in Karnataka which are offering PG engineering courses constitute universe of the study. The sample units to be covered by study are highlighted in the following table 1:

Table 1

Educational Institutions	Courses/Programmes
Visvesvaraya Technological University	M.E/M. Tech.
Private Universities/Colleges	M.E/M. Tech

Sampling Method:

The sample areas were selected by adopting stratified as well as convenience sampling. Convenience sampling was used to select those institutes located in rural areas.

Sample Units:

Table 2

Courses/ Programmes	Sample Units	Sample Ratio (Govt. & Private)
M.E/M. Tech	Govt. Colleges/University	50:50
M.E/M. Tech	Private Universities/College	

Sample Respondents:

Table 3

Sample Units	No. of Respondents
6 Govt. Universities (MTech)	22
6 Private Universities/ College (MTech)	16
TOTAL	38

Study Period:

The period of study is scheduled as 2016 to 2018. Data pertaining to the period from 2008 to 2018 was collected for the purpose of the study.

The primary data from beneficiaries and other stakeholders (government, educational institutions and leaders of communities, social activists) was collected through questionnaire and personal interaction. Secondary data for the study was collected from records of educational institutes, Ministry of Social Justice and Empowerment, Ministry of Human Resource Development, and All India Council of Technical Education, etc. The data was collected from government reports and other published print and electronic media. The research reports, research papers, working papers, government circulars, scheme documents, etc. pertaining to the period from 2008 to 2018 collected for the purpose of the study. Different types of questionnaire were designed targeting different respondents i.e. beneficiaries, institutions, government machinery, etc. field as well as desk research method was adopted for the study. The study is descriptive in nature. The data is classified on the basis of variables both quantity and qualitative classification. The classified data will be arranged in tabular forms in order to facilitate a clear and simple expression of the implication, and an easier and more convenient comparison and drawing conclusions. Data collected was analyzed with the help of data analysis tools such as percentage method, Average Z-Test, etc. Data entry is carried out using CSPro software. The cleaned data was statistically analyzed using Statistical Package for Social Sciences (SPSS) software.

8. Data Analysis

Karnataka is also considered as educational hub of India with 210 engineering colleges. Almost all engineering colleges are offering Computer and Mechanical Engineering courses. Every taluka in Karnataka has one engineering college. The sample colleges and courses selected for the present study are highlighted as in table 4.

Private Engineering Colleges fill their 30% seats through COMED-K and 25% of seats through Management quota. 45% of their seats are filled up through KEA-CET under government quota. The fee structure of different categories of admission quota is different. Reservation norms are applied for government quota and COMED-K quota.

Scholarship:

SC & ST Scholarships by Social Welfare Department, GOK

Table 4

Sl. No.	Name of College	Location	Type	Sample Course
1	PDA College of Engineering	Kalaburagi	Private	Production Engineering
2	R.V. College of Engineering	Bengaluru	Private	Digital Communication Engineering
3	*JSS* Science & Technology University	Mysuru	Private	Energy System & Management
4	Siddaganga Institute of Technology	Tumakuru	Private	Structural Engineering
5	SDM College of Engineering & Technology	Dharwad	Private	Power System Engineering
6	Guru Nanak Dev Engineering College	Bidar	Private	Digital Communication & Networking
7	Visvesvaraya Technological University	Belagavi	Govt.	Structural Engineering
8	Visvesvaraya Technological University	Kalaburagi	Govt.	Digital Electronics & Comm. Systems
9	Visvesvaraya Technological University	Mysuru	Govt.	Industrial Automation Engineering
10	*Government* Engineering College	*Hassan*	Govt.	Industrial Automation Engineering
11	*VTU* Extension Center	Yeshwanthpur	Govt.	Digital Electronics
12	University BDT College of Engineering	Davanagere	Govt.	Thermal Power Engineering

Table 5

Seat reserved v/s seat filled up

Name of College	Total Seats (GQ)	Reserved Seats		% of Reservation		Seat Filled UP	
		SC	ST	SC	ST	SC	ST
PDACE, Gulbarga	14	2	-	14	-	2	-
R.V. College of Engineering	29	3	1	10	3	3	1
JSS Science and Technology University	12	1	1	8	8	1	1
Siddaganga Institute of Technology	14	3	0	21	0	3	-
SDM College of Engineering & Technology	17	1	1	6	6	1	1
Guru Nanak Dev Engineering College	15	1	2	7	13	1	2
Visvesvaraya Technological University	25	4	1	16	4	4	1
University BDT College of Engineering	25	2	1	8	4	2	1
Visvesvaraya Technological University -PGCG	25	2	2	8	8	2	2
Visvesvaraya Technological University -PGCM	25	4	1	16	4	4	1
Government Engineering College, *Hassan*	18	2	0	11	-	2	-
VTU Extension Center, Yeshwanthpur	25	2	1	8	4	2	1
Total	244	27	11			27	11

Source: Fieldwork

Note: GQ – Govt. Quota of Sample Course of respective College.

- Parents Annual Income: Below 2.5 lakhs.
  SC & ST Scholarships by Department of Technical Education, GOK
- Parents Annual Income: More than 2.5 lakhs.
- Fee reimbursement to students admitted through PGET/CET.
  SC & ST Scholarships by VTU, Belagavi.
- Parents Annual Income: - More than 2.5 lakhs.

It is evident from table-5 that the following colleges have not reserved 15% mandated seats for SC category for the sample course: a) JSS Science and Technology University, b) SDM College of Engineering & Technology, c) Guru Nanak Dev Engineering College, d) University BDT College of Engineering, e) Visvesvaraya Technological University – PGCG, f) VTU Extension Center, Yeshwanthpur. However, all the colleges have filled up the reserved seats.

Gender Diversity of SC & STs:

The gender diversity of SC & STs students admitted at sample engineering colleges is presented in the table-6. It is evident from table-2 that the representation of female belonging to SC category in PG engineering course is low, whereas in case of SC category, there was reasonable representation of female.

Socio-economic backgrounds of parents are presented in the table 7 to table 10:

The table-7 shows that there was not much impact of parent's educational attainment on choice of engineering course by students belonging to SC&ST category.

It is evident from the table-8 that parental occupation was significantly related to student's choice of engineering education. Parents of majority of students are government servants working as Gazetted officers.

All the students pursuing their PG engineering degree at sample Private engineering colleges come from urban areas, whereas only 2 students out of 22 who were pursuing his PG degree at sample govt. engineering colleges are from rural areas. (Table-9)

The table-10 demonstrates that all the students who are

Table 6
Gender diversity of SC & ST

Category	Govt. Engineering Colleges				Private Engineering Colleges			
	Male	**Female**	**Total**	**% of Female**	**Male**	**Female**	**Total**	**% of Female**
SC	13	3	16	19	7	4	11	36
ST	5	1	6	17	3	2	5	40
Total	18	4	22	18	10	6	16	38

Source: Fieldwork

Table 7
Parental education background

Category	Illiterate	Secondary	Under Graduate	Post Graduate	Professional Course	Total
	Govt. Engineering Colleges					
SC	-	4	6	3	3	16
ST	-	2	3	-	1	6
Total	-	6	9	3	4	22
	Private Engineering Colleges					
SC	-	5	1	1	4	11
ST	-	2	1	-	2	5
Total	-	7	2	1	6	16

Source: Fieldwork

Table 8
Parental occupation background

Category	Govt. Engineering Colleges				Private Engineering Colleges			
	Agriculture	Govt. Job	Private Job	Total	Agriculture	Govt. Job	Private Job	Total
SC	-	14	02	16	-	11	-	11
ST	-	06	-	6	-	5	-	5
Total	-	20	02	22	-	16	-	16

Source: Fieldwork

Table 9
Parental location background

	Govt. Engineering Colleges				Private Engineering Colleges			
Category	Urban	Rural	Tribal	Total	Urban	Rural	Tribal	Total
SC	14	02	-	16	22	-	11	11
ST	5	01	-	6	6	-	5	5
Total	22	02	-	22	28	-	16	16

Source: Fieldwork

Table 10
Medium of instruction background

	Govt. Engineering Colleges				Private Engineering Colleges			
Category	English	Hindi	Regional Language	Total	English	Hindi	Regional Language	Total
SC	16	-	-	16	22	-	-	11
ST	6	-	-	6	6	-	-	5
Total	22	-	-	22	28	-	-	16

Source: Fieldwork

Table 11
Academic performance of SC & ST students

	Govt. Engineering Colleges					Private Engineering Colleges				
Category	Very Good	Good	Fair	Poor	Total	Very Good	Good	Fair	Poor	Total
SC	-	12	4	-	16	-	5	6	-	11
ST	1	3	2	-	6	-	3	2	-	5
Total	1	15	6	-	22	-	8	8	-	16

Source: Fieldwork

Table 12
Source of information about engineering colleges & its PG programme

Source of Information	SC	ST	Total	Rank
Parents & Relatives	14	3	17	1
Institute Website	-	-	-	-
Advertisement in Magazines/Newspapers	-	-	-	-
Campus visits	-	-	-	-
Faculty Members	-	-	-	-
Word-of-mouth (Friends)	9	06	15	2
Other Students (Alumni)	4	02	6	3
Other	-	-	-	-
SC&ST Cell of Passed out College	-	-	-	-
Head of Institute/ Management of the Institute	-	-	-	-
Total	27	11	38	-

Source: Fieldwork

Table 13
Source of motivation for choosing engineering colleges

Source of Motivation	Category			% of Response
	SC	ST	Total	
Life Story of Dr. B R Ambedkar	-	-	-	-
Slogan of Dr. B R Ambedkar (Educate, Organize & Agitate)	-	-	-	-
Dr. B R Ambedkar philosophy of Servant of Society	-	-	-	-
Philosophy of Service & Development of Society	-	-	-	-
Service & Development of own community	-	-	-	-
Philosophy of leading greater rather than long life	-	-	-	-
Social Status	7	1	8	21
Philosophy of Self Development	11	6	17	45
Market Value of Courses	9	4	13	34
No Response	-	-	-	-
Total	27	11	38	100

Source: Fieldwork

pursuing their PG degree in Govt. as well Private Engineering Colleges completed their primary to graduation studies in English medium.

It is evident from table-11 that there was low positive correlation exists between academic track record & student's choice of PG engineering course by students belonging to SC & ST category.

Source of Information about Engineering Colleges & its Programmes are portrayed in table-12. It is observed that Parents & Relatives are the major source of information about Engineering Colleges and their PG Programmes. The friends and alumni students were also found to be key source of information.

Source of Motivation are portrayed in table-13, it is observed that the Philosophy of Self Development has emerged as a major *source* of motivation proven to be a strong source of inspiration followed by Market Value of Courses and Social Status.

The performance of Engineering Colleges on equity indictor is demonstrated in table-14.

Out of 23 equity indicators, Government engineering colleges are performing excellent on 10 equity indicators. The Government engineering colleges are performing fair on 8 equity indicators. Government engineering colleges are doing very badly on equity indicators such as: a) Motivation by Head of the Institution, b) Funding for conference/seminar/workshop.

Out of 23 equity indicators, Private engineering colleges are performing excellent on 6 equity indicators. The Private engineering colleges are performing fair on 5 equity indicators. Private engineering colleges are doing very badly on equity indicators such as: a) Treatment by Head of the Institute, b) Motivation by Head of the Institution, c) Information about Loan facility for SC/ST Students and d) Funding for conference/seminar/workshop.

Opinion of SC & ST students about faculty members of Government and Private Engineering colleges is presented in the table-15.

Faculty Members of Govt. Engineering Colleges are found to be friendly towards SC&ST students. However, majority of students feel that faculty Members indulged in creating fear psycho among them and also they are involved in inhibitive practices. The approach of faculty members of Private Engineering Colleges is hostile. Faculty members of Private Engineering Colleges were found to be indulged in creating fear psycho among SC & ST students.

Relationship and interface that exists between SC&ST & non-SC&ST students is highlighted in the table-16. It can be concluded from the table-16 that friendly relation exists

between SC&ST and Non-SC&ST Students in the sample government as well private engineering colleges. However, 50% of SC&ST students informed that non-SC&ST students had not extended invitation for social gatherings. 50% of students also expressed apprehension that they were not getting moral support from non-SC & ST students.

The performance of Government and Private Engineering colleges on access indictor is portrayed in the table-17. Govt. Engineering Colleges are performing well on all the access indicators except Right to participate in Seminar/Conference/ Workshop and Right to Contact Head of the Institution. Whereas, private Engineering colleges are performing well on access indictors except a) Right to participate in Seminar/Conference/Workshop, b) Right to Contact Head of the Institution and c) Right to have access to information affecting academic & research interest.

Awareness level of SC & ST Students about facilities/schemes meant for them is exhibited in the table-18. The students belonging to SC&ST category are well versed with their academic rights. However, their awareness level about few of the schemes/facilities which are concerned with cost, excellence and career is low. Those schemes includes: a) Subsidized Educational Loan and b) Earning While Learning Scheme, c) Tutorial system for SC/ST students, d) Pre Examination Training, e) Entrance Coaching, f) SC/ST Venture Capital Fund and g) Free Legal Aid Facilities.

Table 14
Performance of engineering colleges on equity indictor

Equity Indictors	% of +VE Response	
	Govt. Engineering Colleges	Private Engineering Colleges
Treatment by Faculty Members	73	43
Treatment by Head of the Institute	50	19
Internal Assessment of Student	66	45
Motivation by Faculty Member	41	22
Motivation by Head of the Institution	17	12
Process of Internship Guide Allocation	81	62
Grievance Redressal System	23	21
Issue of Books from Dept./Institute Library	100	100
Use of Computer Lab.	100	100
Allotment of Room in Hostel	100	100
Issue of Scholarship Form	100	100
Quality of Food supplied in Hostel	100	100
Information about Facilities offered to SC/ST Students	63	41
Information about Loan facility for SC/ST Students	24	11
Involvement in Student Feedback Process	61	39
Supply of Information about Placement Opportunities	53	42
Approach of Cafeteria People	100	100
Funding for Conference/seminar/Workshop	13	5
Personal Interview Process	76	53
Approach of administration towards students	72	64
Atmosphere in the Campus	100	71
Segregation of students in Hostel based on caste	100	43
Efforts by authority to ensure harmony in the Hostel	100	61

Source: Fieldwork

Table 15
Student-faculty interaction at engineering colleges

Interaction Indicator	% of –VE Response	
	Govt. Engineering Colleges	Private Engineering Colleges
Getting Guidance in Difficulty	38	48
Faculty Members are Helpful	39	43
Faculty Members Availability	41	49
Faculty Members are Friendly	38	50
Faculty Members are Fear Inducing/ Inhibitive	50	64
Guidance on Internship	35	46
Mentoring	27	48

Source: Fieldwork

Table 16
SC & ST-NON-SC & ST student relations/interface

Relationship Indicator	% of –VE Response	
	Govt. Engineering Colleges	Private Engineering Colleges
False & motivated Complaints	0	0
Inter Caste Attitudes	21	43
Sharing of Books and Class Notes	16	40
Group Study & Discussion	26	36
Invitation for Social Gathering	52	62
Financial Support in Emergency	41	49
Moral Support	50	53

Source: Fieldwork

Table 17
Performance of govt. and private engineering colleges on access indictors

Access Indicators	% of -Ve Response	
	Govt. Engineering Colleges	Private Engineering Colleges
Right to Admission to Course	0	0
Right to Admission to Hotel	0	0
Right to use Computer Lab	0	0
Right to use Dept. Resources	0	0
Right to Contact Faculty Members	0	0
Right to Contact Head of the Institution	50	61
Right to file Complaint	21	45
Right to Justice	0	21
Right to Discuss with Faculty Members	9	43
Right to participate in Seminar/Conference/Workshop	100	100
Right to use Library Resources	0	0
Right to have access to information affecting academic & research interest	41	51

Source: Fieldwork

Table 18
Awareness level about facilities meant for SC & ST students

Facility /Scheme	% of +VE Awareness Level	
	Govt. Engineering Colleges	Private Engineering Colleges
Grievance Redressal System	100	100
Field Visit Scheme	100	100
Issue of Books	100	100
Free Hostel Facility	100	100
SC/ST Scholarship	100	100
Merit Scholarship	100	100
SC/ST Book Bank Facility	100	100
Subsidized Educational Loan	43	38
Scholarship /Funding under CSR Initiatives of Corporate India	0	0
Student Exchange Programme	0	0
Domestic Fellowship Scheme	0	0
International Fellowship (Common Wealth Fellowship, etc.)	0	0
Earning While Learning Scheme	56	50
Post-Doctoral Fellowship Scheme	100	100
Coaching for KAS/IAS Examination	50	51
Tutorial system for SC/ST students	42	31
Pre Examination Training	36	30
Entrance Coaching	44	30
Self-employment schemes	100	100
SC/ST Venture Capital Fund	11	18
Free Legal Aid Facilities	15	19

Source: Fieldwork

Table 19
Opinion of students about issues concerning to access & equity

Facility /Scheme	% of + Response	
	Govt. Engineering Colleges	Private Engineering Colleges
Does corporate India is playing any role in ensuring access & equity in Higher Education?	0	0
Do you believe ICT plays vital role in ensuring access & equity at Higher Education?	100	100
Do you believe that faculty should specially help SC/ST students	36	51
Do you believe that Parents' Socio-economic status influence the choice of higher education stream and institution	40	41
Does Diversity Matter in the Education Process?	62	71
Do you believe that high Cost of higher education is a de-motivating factor & big concern for SC&ST students aiming to pursue Higher Education	100	100
Do you believe that commercialization of high education has become obstacle for access and equity in Higher Education?	100	100
Do you believe that internationalization of high education has become obstacle for access and equity in Higher Education?	31	43
The gap between govt. support and actual cost of at Higher Education is very high	100	100
Do You believe that recruitment of more number of SC&ST Teaching Staff will solve problem of access and equity	05	61

Source: Fieldwork

The students belonging to SC&ST category don't know anything about: a) Scholarship /Funding under CSR Initiatives of Corporate India. B) Student Exchange Programme, c) Domestic Fellowship Scheme, d) and International Fellowship (Common Wealth Fellowship, etc.)

The opinion of SC & ST Students about issue concerning to their academics, excellence, career, etc. are presented in the table-19. Majority of Students had opined that corporate India

is not playing any role in ensuring access and equity in higher education. Students believe that ICT can play a vital role in ensuring access & equity in Higher Education. All the students feel that high cost of higher education has become obstacle for access and equity in Higher and is de-motivating factor. They also believe that commercialization of high education has become obstacle for access and equity in Higher Education. They also expressed their apprehension about massive gap between government funding for higher education of SC&STs and cost of Higher education. Majority of students of Private Engineering colleges feel that recruitment of SC&ST Teaching Staff is a solution for access and equity in higher education.

A. Conclusions

1) It is astonishing to note that the 3 private and 3 government engineering colleges have failed to reserve 15% mandated seats for SC category for the courses chosen for the project work.
2) All the seats reserved for SC&STs were filled up by Engineering colleges. The large scale disparity was found in gender diversity of SC & STs students perusing PG courses in Engineering Colleges.
3) There was not much impact of parent's educational attainment on choice of engineering course by students belonging to SC&ST category. It was observed that Parental occupation was significantly related to student's choice of engineering course.
4) All the students pursuing their PG engineering degree at Private engineering colleges come from urban areas, whereas only 2 students out of 22 who were pursuing his PG degree at govt. engineering colleges are from rural areas. The study revealed that the students who had completed their primary to graduation education in English medium have opted for engineering education.
5) There was a low positive correlation exists between academic track record & student's choice of PG engineering courses.
6) Parents and relatives are the prime source of information about engineering colleges. The Philosophy of Self Development has emerged as a major source of motivation for students to take up PG engineering courses.
7) Out of 23 equity indicators, Government engineering colleges are performing excellent on 10 equity indicators. The Government engineering colleges are performing fair on 8 equity indicators. Government engineering colleges are doing very badly on equity indicators such as: a) Motivation by Head of the Institution, b) Funding for conference /seminar/workshop.
8) Out of 23 equity indicators, Private engineering colleges are performing excellent on 6 equity indicators. The Private engineering colleges are performing fair on 5 equity indicators. Private engineering colleges are doing very badly on equity indicators such as: a) Treatment by Head of the Institute, b) Motivation by Head of the Institution, c) Information about Loan facility for SC/ST Students and d) Funding for conference/seminar/workshop.
9) Faculty Members of Govt. Engineering Colleges are found to be friendly towards SC&ST students. However, majority of students feel that faculty Members indulged in creating fear psycho among them and also they are involved in inhibitive practices. The approach of faculty members of Private Engineering Colleges is hostile. Faculty members of Private Engineering Colleges were found to be indulged in creating fear psycho among SC&ST students.
10) It is found that cordial relation exists between SC&ST and Non-SC&ST Students studying at Government as well Private Engineering Colleges.
11) Govt. Engineering Colleges are performing well on all the access indicators except Right to participate in Seminar /Conference/Workshop and Right to Contact Head of the Institution. Whereas, private Engineering colleges are performing well on access indictors except, a) Right to participate in Seminar/Conference/Workshop, b) Right to Contact Head of the Institution and, c) Right to have access to information affecting academic & research interest

9. Recommendations

The following recommendations were made for ensuring inclusive higher education:

1) "Prime Minister's PG Study Fellow" Scheme should be introduced and students pursuing higher education should be provided with a handsome fellowship.
2) Government of Karnataka should introduce "100% Fee Waiver" Scheme" for SC/ST students who are willing to pursue PG programmes.
3) Presently uniform scholarship is offered to students pursuing PG programmes in the field of engineering in different locations without considering cost of living. It is recommended that Differential Scholarship Scheme should be introduced as per "model of classification of cities for HRA purpose".
4) The ill-practice of taking capitation fees through the back door is still prevalent among private medical, engineering and MBA colleges and some colleges collect the same in a different format such as Building Fund, Development Fund, etc. Unless this ill-practice is stopped, it is difficult ensure inclusive higher education in private colleges offering PG programs.
5) Workshop should be arranged to counsel faculty members about changing their attitude such as avoidance, contempt, non-cooperation, discouragement and differential treatment, etc. towards students belonging to the SC/ST community.
6) It is a common practice in most of sample educational institutions to organize specially designed orientation programs for the students coming from non-mainstream background. But no such orientation programmes were designed and organized for SC&ST students to ease the transition of such students from under graduate to Post graduate programmes and instill confidence in them and to understand their strength and weakness. This type of orientation programme exclusively for SC&ST students will help them to acclimatize with the campus environment and to deal with the problems that might

occur due to their lack of cultural capital. Many universities and top institutions in USA run special orientation programs for both blacks and women.

7) It is recommended that a transparent internal assessment and examination systems should be developed. There should internal assessment review committee consisting of faculty representative of SC&STs as well expert from other colleges. This will resolve the problem of discrimination faced by SC&ST students in internal assessment. The internal assessment records should be converted into electronic record and should be available for access.
8) Scheme of providing free laptop should be extended to engineering programmes under SCSP and TSP launched by GOK. Private Engineering Colleges are suggested to make use of Book Bank Scheme launched by Department of Social Welfare, GOK.
9) Launching of Distance engineering coursed should be explored by using ICT in tune with Earn While Learn Scheme.
10) Govt. of Karnataka has set up Dr. B. R. Ambedkar Development Corporation for providing loan to SC&STs for undertaking self-employment, purchase of land, agricultural activity, etc. But there was no scheme to offer education loan to SC&ST students pursuing higher education. Hence, it is suggested that the Dr. B. R. Ambedkar Development Corporation should introduce education loan scheme and a large section of students may get an opportunity of education in private and government colleges if a liberal loan facility is available to them.
11) Student exchange progamme can be considered as one of the means of ensuring inclusive higher education. Therefore, it is suggested that both central and state Governments should make in mandatory for higher educational institutions to launch Student exchange progamme.
12) Corporate Social Responsibilities is expected to plays a vital role in inclusive higher education. But, it was astonishing to note that so far else not a single corporate entity has earmarked fund exclusively for inclusive higher education. In this regard, it is suggested that GOI should develop a model for segment-wise allocation of fund under CSR initiatives such as health, education (primary & secondary and higher), etc. The corporate entities are also suggested to adopt higher educational institutions under CSR initiatives for inclusive higher education. 1% of CSR fund should be earmarked for Inclusive Higher Education and this amount should be spent to meet out tuition fees of higher education.
13) An anti-capitation fee wing should be set up by ministry of higher education, GOK to check and control the activities of capitation fee collection and penalizing such institutes.
14) The engineering colleges are suggested to set up online grievance cell to readdress complaints of SC&ST Students and appoint Anti-Discrimination Officer, create online web-portal linking to AICTE for lodging complaint. 24 hours helpline number should be displayed on the web-portal.

10. Conclusions

Higher education plays a critical role in preparing individuals for participation in a knowledge-based economy. In view of the socio-economic composition of student population, particularly SC & STs, one of the critical challenges before higher education institutions in India is to effectively deal with complex Indian social context. This in turn will help India to embrace access, equity and social justice rather embarrassing. The findings of this study indicate that the more progressive the higher education in terms of its social responsiveness, particularly for access and equity to higher education, the more chance of building progressive and knowledge based economy. Moreover, it is important to raise conscious about the social responsiveness of higher education among various stakeholders to build fair and just society.

References

[1] Avil Saldanha and Kevin Nitin (2021), "Impact of the Covid-19 Pandemic on the Indian Retail Banking Sector" Ushus-Journal of Business Management, Vol.20, No.2, PP.1-15, 2021.
[2] Erkek İsmail Burak, Altınbaşak-Farina İpek (2021), "Covid-19's Impact on Attitude & Intention to Use Mobile Banking Applications", International Journal of Recent Technology and Engineering, Volume-10, Issue-2, PP.135-144, 2021.
[3] Gautam L. & Khare S. K. "E-Banking in India: Issues and challenges", Scholar Journal of Economics, Business and Management, 1(2), PP. 54-56, 2014.
[4] Priyanka Bobade and Anu Alex, "Study the Effect of Covid-19 in Indian Banking Sector", Proceedings of 2nd International Research, Dr. D. Y. Patil Vidyapeeth & Global Business School & Research Centre, Pune, PP.179-184, 2020.
[5] Shafique Ahmed and Samiran Sur, "Change in the uses pattern of digital banking services by Indian rural MSMEs during demonetization and Covid-19 pandemic-related restrictions", Vilakshan - XIMB Journal of Management, PP.1-27, 2021.
[6] Shubhangee Ramaswamy and others, "Adapting Digital Banking Services during Covid-19 Pandemic: A Study on Customer Experiences in Selected District of Maharashtra State, India", International Journal of Electrical Engineering and Technology, Volume 12, Issue 5, PP. 8-17, 2021.
[7] Sowmya Praveen K and C.K. Hebbar, "Impact of Covid-19 on Digital Payment System: With Special Reference to Women Customers of Mangalore City", International Journal of Innovative Research in Technology December, Vol. 7, Issue 7, PP.124-128, 2020.
[8] Vijay Rathee and RituYadav, "Perception of Customers towards Service Quality: A Study of Digital Banking Practices", International Journal of Management, IT & Engineering, Vol. 7, Issue 10, PP.202-220, 2017
[9] Yathish K and Sowmya K. "Customer satisfaction factors towards E-Banking services: study with reference to Axis bank of Mangalore City". International Journal of Scientific Engineering and Research, 5(11), PP.87-89, 2017.