CHAPTER-5
SUMMARY AND CONCLUSION

Education is a powerful instrument in the process of overcoming inequalities, accelerating social transformation and achievement of economic progress. It can effectively establish a new social order based on freedom, equality and justice and hence education is considered as a catalyst of social change.

India has the third largest higher education system in the World, next only to China and the United States. Between 1950-51 to 2011-12, the gross enrolment ratio in higher education increased from 0.7 percent to 20.4 percent, the number of universities increased from 28 to 574 and number of colleges increased from 578 to 34,908. However, the gross enrolment ratio in higher education 21.10 percent in 2012-13 is still very low as compared to the World's average of 23.2 percent and now the Government of India has set the target of achieving 30 percent gross enrolment ratio in higher education.

Though the vision of higher education in India is to realize the country's human resource potential to its fullest with equity and inclusion, there existsState disparity, gender disparity, social group disparity, rural/urban disparity and course wise disparity in higher education.

In India many research studies-Gunawardena (2004), Nelson Akpotu (2004), Harsh Gandhar (2005), Afzal (2008), ManishaMehrotra and Rashmi Joshi (2011), Chandra Kola Adeyemi and Chauhan (2011), Kamble (2012), Iyabo Abe (2012), etc., were formulated at analyzing the disparity in higher education. Existing studies have focused on analysingState disparity or social group disparity or rural-urban disparity in higher education.The current study tries to fill the research gap by analysing all the essential disparities in higher education. Further, in India there had been lack of research attempt on analysing the determinants of higher education. In this direction the current study is a pioneering effort in identifying the households determinants of higher education.

The **objectives** of the current study on **'Disparities and determinants of higher education in India'**are:

- To examine InterStatedisparity in enrolment in higher education and number of higher educational institutions;
- To find out the gender disparity in enrolment in higher education;
- To analyse the social group disparity in enrolment in higher education;
- To examine the rural/urban disparity in enrolment in higher education;
- To identify the determinants of participation in higher education and
- To identify the household determinants of choice of courses and choice of higher educational institutions.

The study is related to 16 major States of India: Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Jammu& Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamilnadu, Uttar Pradesh, and West Bengal. This is due to fact that these States accounted for 92 percentage of population of the country. (Census of India, 2011). The study covers macro analysis and micro analysis. To find the disparity from macro perspective, the secondary data was compiled. The required information relating to State wise enrolment, number of universities, colleges, teachers, expenditure on education, population in the age group of 18-23 years, etc., were compiled from the Annual Reports of University Grants Commission of India, Ministry of Human Resource Development, Census of India 2011, Statistical Abstract of India, Report of National Sample Survey Organisation-64th round-2007-08 andStatistics on Women in India 2010.

For the macro analysis,the study covered the time period from 2004-05 to 2010-11 since it is the recent years for which required data are available. The rural-urban disparity in higher education was related to 2007-08 and the analysis of course wise enrolment was related to 2004-05 to 2009-10. since the required data were available only for these years.

The study used the micro analysis to identify the determinants of enrolment in higher education at the household level and to identify the determinants of choice of higher educational institutions. For this purpose the primary data was collected by adopting multistage random sampling. In the first stage, Coimbatore was selected for the study due to easy accessibility of the investigator. In the second stage, one ward from each zone was selected based on the criteria of accessibility. In the third stage

based on the purpose of the study, information was obtained from the households having the population in the age group of 18-23 years and from students enrolled in higher education. The base line information was obtained by administering an interview schedule to the head of all the households (601) in the selected wards. The information relating to age of the head of the household, size of the family, family income, type of family, educational status of the parent, occupational status of the parent, attitude towards higher education of children are obtained by administering an interview schedule to the head of the households.

The information about the course wise enrolment in higher education, cost of education, motives of higher education, reasons for enrolling in a particular course, reasons for preferring a particular colleges/universities, facilities available in the college, problems faced and measures required were obtained by administering an interview schedule to the person enrolled in higher education in the selected households. As such the study covered 713 students enrolled in higher education.

The primary data was related to 2013-14. To check the accuracy and reliability of data, the pilot study was conducted in August 2013.

The study estimated coefficient of variation, Sopher's disparity index, Gini co-efficient ratio and it applied Chi-square test, T-test, Squared euclidean dissimilarity coefficient matrix, Discriminant analysis, Binary logistic regression analysis, Likert's rating scale, Factor analysisand Garrett's ranking technique.

Findings of the study:

A. Disparities in higher education:

1. State disparity in higher education.

- The number of students enrolled in higher education in India increased from 117.77 lakhs in 2004-05 to 275.00 lakhs in 2010-11. On an average, Maharashtra had got the highest number of students enrolled in higher education (24.25 lakhs) followed by Uttar Pradesh (23.19 lakhs). Comparatively the State of Jammu and Kashmir has got the lowest enrolment in higher education (1.98 lakhs).
- In the reference period, the gross enrolment ratio at the All India level increased by more than two fold from 9.97 percent to 19.40 percent. On an average, the State of Maharashtra has got the highest gross enrolment ratio of 19.39 percent and Bihar has got the lowest gross enrolment ratio of 8.01 percent.

- With regard to number of students enrolled in undergraduate courses West Bengal occupies the first place with 6.54 lakh students enrolled in undergraduate courses, while Jammu and Kashmir has got the lowest number of the students enrolled in undergraduate courses (0.97 lakhs). However, Uttar Pradesh occupies the first place with regard to number of students enrolled in postgraduate courses (2.36 lakhs) in Uttar Pradesh and with regard to number of students enrolled in professional courses Andhra Pradesh occupies the first place with 4.14 lakhs students. On an average, the number of students enrolled in Ph.D/M.Phil courses was found to be the highest in Tamilnadu(11598) and lowest in Orissa (584).
- In the reference period, on an average,Tamilnadu had the highest number of universities (46), while Assam had got the lowest number of universities (7).
- Andhra Pradesh has got highest number of colleges (3376) and Jammu and Kashmir (304) has got lowest number of colleges.
- Maharashtra has the highest number of teachers (71,610), while Jammu and Kashmir (4,884) had got the lowest number of teachers.
- The budget expenditure on higher education was the highest (Rs. 105417.79 millions) in Maharashtra and lowest in Jammu and Kashmir (Rs. 9355.18millions).
- The estimated compound growth rate of number of universities was found to be the highest in Punjab (20.90 percent). While Haryana had the highest compound growth rate of number of colleges (26.10 percent), Uttar Pradesh had the highest compound growth rate of number of teachers (16.3 percent).
- The most dissimilar States, having the largest distance coefficient are Bihar and Tamilnadu (531.46) followed by Tamilnadu and West Bengal (431.67), Assam and Tamilnadu (400.77).
- Number of colleges, number of State public universities and number of teachers were the significant factors causing interState disparity in higher education since theyrespectively accounted for 29.60 percent, 21.59 percent and 19.43 percent of variation in enrolment in different states.

2. Gender disparity in higher education.

- Between 2004-05 to 2010-11, the average gross enrolment ratio of women was low(11.23 percent) as compared to that of men-15.37 percent.

- The gender disparity in higher education was found to be highest in the State of Orissa since estimated Sopher's disparity index was found to be highest for the State of Orissa (0.55). However, there exist lowest gender disparity in Jammu and Kashmir as indicated by the low Sopher's disparity index (0.06).
- In the reference period the percentage of men enrolled in undergraduate courses declined from 55.44 percent to 47.47 percent, while that of women declined from 59.73 percent to 55.54 percent. On an average 46.94 percent of men and 53.16 percent of women were enrolled in undergraduate courses.
- Between 2004-05 to 2010-11,the percentage of men enrolled in postgraduate courses increased from 3.00 percent to 5.95 percent, while that of women increased from 7.56 percent to 7.94 percent. On an average 5.27 percent of men and 7.71 percent of women were enrolled in postgraduate courses.
- In the reference period, the percentage of men enrolled in professional courses increased from 11.02 percent to 17.67 percent, while that of women increased from 6.96 percent to 13.95 percent. On an average 16.23 percent of men and 11.76 percent of women were enrolled in professional courses.
- In the reference period the percentage of men enrolled in Ph.D/M.Phil courses declined from 0.46 percent to 0.44 percent, while that of women also declined from 0.50 percent to 0.45 percent. On an average 0.37 percent of men and 0.39 percent of women were enrolled in Ph.D/M.Phil courses.

3. Social group disparity in higher education.

- In the reference period the gross enrolment ratio of scheduled caste men (22.46 percent) and scheduled caste women (16.90 percent) was found to be the highest in the State of Maharashtra.
- There was a significant difference in the gross enrolment ratio of scheduled caste students with that of All categories since the calculated t value was 6.51 and it was greater than $t_{0.05}$ =1.75.
- In all the States, in the reference period there had been decline in disparity in enrolment of scheduled caste population with that of All categories since there was a decline in the estimated Sopher's disparity index in all the States.
- Between 2004-05 to 2009-10, on an average 48.91 percent of scheduled caste men and 45.24 percent of scheduled caste women were enrolled in undergraduate courses.

- The gross enrolment ratio of scheduled tribe men (64.14 percent) and scheduled tribe women (36.14 percent) was found to be the highest in the State of Uttar Pradesh.
- There was a significant difference in the gross enrolment ratio of scheduled tribes student with that of All categories since the calculated t value was 3.66 and it was exceeding $t_{0.05}$ =1.75.
- In all the States in the reference period there had been decline in disparity in enrolment of scheduled tribes students with that of All Categories since there was a decline in the estimated Sopher's disparity index in all the States.
- On an average 36.25 percent of scheduled tribe men and 34.30 percent of scheduled tribe women were enrolled in undergraduate courses.

4. Rural-urban disparity in higher education.

- Gross enrolment ratio in higher education in rural areas was found to be the highest in Kerala (15.89 percent) and lowest in Madhya Pradesh (3.64 percent) in 2007-08, However the gross enrolment ratio in higher education in urban areas was found to be highest in Bihar (36.28 percent) and lowest in West Bengal (17.07 percent) in 2007-08.
- The estimated rural/urban disparity index was found to be highest in Madhya Pradesh (0.89 percent) and lowest in Kerala (0.20 percent).

5. Analysis of inequality in demand for higher education and supply related variables of higher education

- Between 2004-05 to 2010-11, the State disparity in enrolment of all categories of all students in higher education had increased as indicated by increase in Gini co-efficient ratio from 0.25 to 0.30. Though the State disparity in the number of universities declined there had been increase in disparities in the number of colleges, number of teachers and the expenditure on higher education.

B. Determinants of higher education:

1. General information of the selected households.

- Majority of the head of the selected households (34.61 percent) were belonging to the age group of 40-45 years. Majority of them (36.77 percent) had secondary education, while only 22.30 percent of them had college education. More than 30 percent of the head of the households were employed as industrial workers.

- The average income for the sample households as a whole was estimated to be Rs. 16348.
- There was dominance of nuclear family and medium sized families.

2. **Details about the family members.**
   - Majority of the family members, (22.86 percent) were belonging to the age group of 18-23 years and 47.43 percent of the family members had completed college level education. Majority of the family members were working in office and majority of them were earning monthly income of Rs.30,000–Rs.50,000 and in all the selected households education expenditure occupied the essential item of expenditure, next to food.
3. **Attitude towards higher education.**
   - Majority of the head of households (53.74 percent) preferred their male children to be enrolled in colleges while only 42.43 percent of the head of the households of the family favoured higher education for the female children
   - The attitude of the head of the household towards higher education for boys was significantly associated with the variables like education of the head of the family income, type of family and place of living, since the calculated chisquare values were more than the critical values.
   - The attitude of the head of the household towards higher education for girls was significantly associated with the variables like education of the head of the family, size of family, type of family and place of living, since the calculated chisquare values were more than the critical values.
4. **Motives for higher education.**
   - For majority of the male and female respondents have the major motive for higher education was that of employment.
5. **Analysis of enrolment in higher education.**
   - At the micro level both in rural and urban areas, majority of male and female students were enrolled in undergraduate courses.
   - The percentage of female students enrolled in engineering and medicine was high as compared to male students.
   - Among the scheduled caste men and women and scheduled tribes men and women, majority of them were enrolled in undergraduate courses.The same thing was evident with regard to Hindus and non-Hindus.

6. **Cost of higher education.**
   - Among various items of household expenditure on higher education hostel fees was the predominant item followed by tuition fees.
   - Majority of the selected students meet their higher education expenses by parents support.
7. **Determinants of choice of courses.**
   - Enrolment of males in professional courses is significantly influenced by age of mother, education of father, occupation of mother, family income, family property, type of family, cost of higher education and percentage of marks in board examination.
   - However, the enrolment of females in professional course is significantly influenced by age of mother, education of mother, occupation of mother, family income, motives for higher education, cost of higher education and percentage of marks in board examination.
   - Enrolment of males and females in professional course is significantly influenced by education of mother, occupation of mother, family income, family property, type of family, size of family, cost of higher education and percentage of marks in board examination.
   - In rural area,enrolment in professional course is significantly influenced by education of mother, occupation of mother, family income, type of family, motives for higher education, cost of higher education and percentage of marks in board examination.
   - In urban area,enrolment in professional course is significantly influenced by education of father, family income, family property, cost of higher education and percentage of marks in board examination.
   - For scheduled caste students enrolment in professional course is significantly influenced by education of father, education of mother, occupation of mother, family property, cost of higher education and percentage of marks in board examination.
   - For scheduled tribes enrolment in professional course is significantly influenced by family income, family property, cost of higher education and percentage of marks in board examination.

- For Hindus enrolment in professional course is significantly influenced by age of mother, education of mother, family income, family property, cost of higher education and percentage of marks in board examination.

8. Determinants of choice of institutions.

- The important personal factors influencing the choice of institutions were parents motivation, personal safety, accessibility and previous academic performance. The significant college/university factors influencing choice of institutions were low fees, good teaching and good placement.

9. Problems in higher education

- The major problems in higher education as indicated by the respondents were tough syllabus followed by poor quality of teaching and low amount of scholarship.

10. Measures required.

- The measures required by the students enrolled in higher education were better infrastructure facilities, provision of more training programmes for placementand more scholarship.

Conclusion:

The conclusion emanating from the study are as follows:

1. There exists interState disparity in enrolment in higher education.
2. In all the States of the students enrolled in higher education majority of them are enrolled in undergraduate courses and only negligible percent are enrolled in Ph.D/M.Phil courses.
3. There is increasing trend in supply of higher education in terms of number of universities, number of colleges, number of teachers and plan and non-plan budget expenditure on higher education in various States of India.
4. There is gender disparity in higher education in all the States. The gross enrolment ratio of women in higher education in all the States was lower as compared to that of men. Majority of women have enrolled in undergraduate courses and only low percentage of women were enrolled in PhD/ M.Phil courses
5. Social group disparity in higher education is prevalent since the enrolment of scheduled caste men and women and scheduled tribes men and women was lower as compared to that of All categories

6. There exists rural/ urban disparity in higher education and the gross enrolment in higher education was found to be low in rural areas as compared to urban areas
7. There exist inequality in gross enrolment ratio in higher education, number of universities, number of colleges, number of teachers and budget expenditure on higher education in various States of India.
8. At the household level, choice of courses is influenced by the age of the parents, educational status of the parents, occupational status of the parents, family income, family property, cost of higher education and previous academic performance.
9. The choice of higher educational institution is influenced by personal factors and the available infrastructural facilities in the educational institutions.

Recommended measures:

1. For the Government:

- The Central and State government needs to increase the outlay on higher education. Atleast 5 percent of Gross Domestic Product should be allotted for higher education. Public private sector participation in higher education can be encouraged.
- More number of colleges separately for women can be established in rural areas as a way of reducing gender disparity and rural/urban disparity in higher education.
- There is need for increasing the amount of fellowship for scheduled caste and scheduled tribes students. The percentage of reservation can be increased from 5 percent to 7.5 percent.
- There is the need to increase women's access to university education and particularly, more of them should be encouraged to offer courses in science-related areas at the secondary school level in order to provide the much needed reservoir for admission into tertiary institutions.
- In the regions of high concentrated scheduled caste or scheduled tribes population separate colleges might be established for them.
- India needs to have a proactive demand based policy towards private higher education including foreign institutions/universities desirous of setting up campus in India or entering into joint ventures and

- Open universities need to be encouraged to offer quality programmes at the least cost. This is because the most cost-effective way of providing higher education, including technical and vocation education.

2. For the non Governmental agencies:

- Non Governmental agencies can conduct awareness campaign in the villages spreading about the value of higher education
- By distributing pamphlets they can explain about the various scholarship provided by the Government to promote higher education and
- Community mobilization plans may be formulated to ensure participation of scheduled caste and scheduled tribe students in higher education.

3. For the higher educational institutions:

- Educational institutions must realise relived the need for link between higher education and employment and hence they should come forward to offer more job oriented courses.
- Instead of profit motive, they need to have welfare motive and hence fixing high fees to be avoided.
- Placement training need to be conducted at regular intervals and placement need to be assured to the students by improving their soft skills.
- They need to provide better infrastructure facilities in terms of transport, laboratory facilities, library, classrooms, computer facilities and hostel facilities.
- They have to appoint qualified teaching staff and teacher student ratio should not exceed 1:40.
- They should be monitored regularly by the competent authorities with regard to fund usage and appointment of staff and
- For increasing the students enrolment higher educational institution can adopt shift system and evening college.

4. For the parents:

- The people should realize the value of higher education and parents must consider their prime duty as one of providing higher education for their children.
- The parents need to be motivated to provide equal treatment for male and female children in providing higher education and
- The choice of courses need to be left to the discretion of the students.

Scope for future research:

- A study on impact of public private sector participation ondisparities in higher education can be formulated;
- Longitudinal study on choice of courses and choice of institutions can be undertaken;
- A study on internationalization of higher education in India and its impact on the economy can be designed; and
- Gender studies on the completion and attrition rates among undergraduate and postgraduate students over specified period can also be undertaken.

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