

# Women's participation in sustainable development of India through higher education

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## Abstract

*In this paper, we aimed to discuss, analyze and suggest concrete steps towards women participation in higher education and their role for the sustainable development of our nation. Towards this goal we have done data analysis of the survey of percentage of female and male students enrolled in higher education at National level. This includes data for Undergraduate level, Post Graduate level, M. Phil. and Ph. D. The survey includes data from 795 universities, 34,193 colleges and 7496 standalone institutes spread over India for the year 2016-17 which is very recent. The same study is extended to the state of Gujarat to know where we stand at National level. Further the study is extended to see how many percentage of female students are actually entering in the profession of teaching at the higher education after well qualified. The study show an encouraging trend towards women empowerment though disparity still grows large. The data survey is carried out for percentage of male and female faculties in various cadres of higher education at the University and at the rural base colleges of Vallabh Vidyanagar. Vallabh Vidyanagar is chosen because it is an educational hub for all levels of education with many disciplines with a rural background. Finally concrete suggestion to improve the women participation in higher education is highlighted which will help to overcome the forces causing their career choices in higher education*

**Keywords:** Education; Educated women; empowerment; sustainable development.

## INTRODUCTION

Women contribute almost half of the total population in India and hence contribute an important component which cannot be considered insignificant. It has been realized that for the transformation of our nation from developing to a developed status, the first and the foremost requirement envisaged by visionaries is the empowerment of women. This is truly seen as the constitution of India conveys an important mandate in its preamble for equality of women for fundamental rights and duties. Even though it has encouraged women development through various affirmative measures, empowerment is possible if women are given equal opportunities to grow and participate in all sectors like governance, economic, socio-political and technological fronts of nation building processes. Empowerment in real sense is possible when their abilities and strengths are utilized by the decision making bodies.

According to the constitutional mandate the discourse of women empowerment as per the data presented in this paper show a progressive increase over last decade in various sectors. And this trend need to be boosted with more women participation for the sustainable development of India. The most important challenge in front of India is to achieve the status of Developed nation from the developing nation. And the most concrete step in this direction is empowerment of women as they constitute almost 50 % of India's population. And empowerment comes through Education. Education strengthens us to stand in society and live dignified life and become important component in the self-development and nation at large.

National policy for the empowerment of women (NPEW) was formulated in 2001 for the advancement, development and empowerment of women [1]. Since then miraculous success is seen in Indian economy achieving higher growth impacting general public and women in special. The enforcement of NPEW has brought new opportunities for women empowerment along with

challenges to face the socio economic problems persisting in society for women. These problems are so deep rooted in India that immediate changes cannot be expected.

Today, more focus is needed for safety of women in our society. The reported violence against women are para mounting in terms of rapes, abuse, dowry, exploitation etc. The percentage of women having respectable jobs are still less while more enrolment of women is in low paid clerical type of jobs. The misuse of information technology has endangered women safety. Sexual abuse, cybercrimes and harassment of women through mobiles and internet are tolling day by day.

Sustainable development of any nation vitally depends on the education of its education particularly at the higher and technical education. Thus the participation of women in higher education is important. The main objective of the present study is to highlight the participation of the women in a higher education starting from student level entry to different academy positions held by women from local level to state and national level. The methodology used for current study is based on secondary sources. The statistical data has been taken from All India Survey on Higher Education (2016-2017). The data has been analyzed to understand the actual position of women in higher education.

Looking to the present scenario, our government is making all efforts to utilize the full potential of women and to make them equal partners in all spheres of decision making. The main objective thus includes creating conducive socio-cultural, political and economic environment for women to enable them to enjoy their fundamental rights and to make use of their full potential for the welfare of the family and society at large to contribute to the sustainable growth of the nation. Measures to maintain proper health condition, improving quality education, equal participation in institution of governance and decision making bodies, transforming societal attitudes and mind-sets, curbs on all types of violence on women by implementing new policies in favor of women need to be strengthened for overall holistic development of the society.

## **ROLE OF WOMEN IN INDIAN SOCIETY**

India is very fortunate to have numerous great women like Rani Lakshmi Bai, Mrs. Vijaylakshmi Pandit, Sarojini Naidu, Indira Gandhi, Kalpana Chawla etc. whose contributions made every Indian proud. The list is long but we restrict here. From the role of woman preconceived by societal norms seemed to change at fast pace. Today we find women excelling in fields of sports, science, politics, social media and journalism and in military and air forces.

### **Importance of Education for the empowerment of women**

Women empowerment means empowerment of mother India herself. In India nowadays women are working together with men in every walk of life. This is possible because of women's education. Educated women can contribute in all sectors of education, health, business and in the development of the society. Educated girls and young women know their rights and have the confidence to utilize them in the development of nation. Realizing the importance of the role of women in the development of nation, our prime minister has initiated a mission under the slogan "Beti bachavo Beti padhavo". Education will empower women and will help to be economically independent. It will then contribute towards the development of a society. Uneducated women remain backward and economically dependent. Economic empowerment and independence will only come through proper education and employment of women. Educated girls and women would become aware of the importance of health and hygiene.

Educated mothers can take better care of both herself and her family. Educated women are now looked upon with dignity and respect in our society. Educated women proved to be highly successful in their life and they become inspiration for other women of younger generation. Educated women are more informed of their rights and duties. The knowledge of women protection laws and the atrocity rules would lead to decline in violence and injustice against women. To protect women from the evils, women have to come forward.

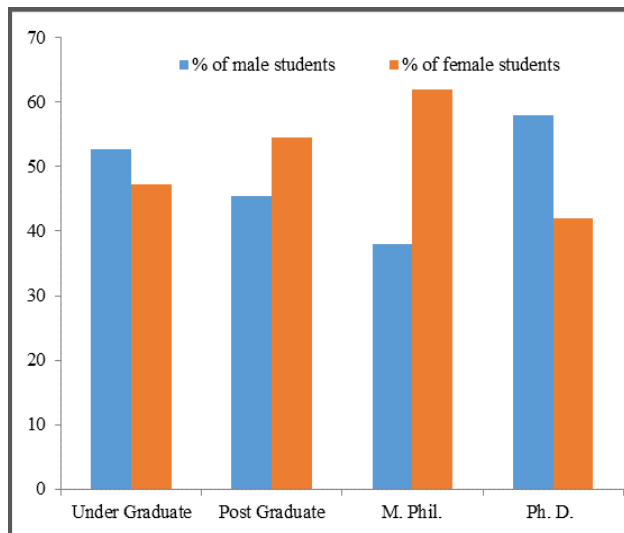
In recent years, women's status has received a special attention in the national policies, plans and schemes resulting in advancement of women in all fields especially in education sector. Special committees on women have been set up for implementing programs and schemes. Government has realized that in order to make India as developed nation, empowerment of women is the first and for most step required. Hence Ministry of Women and child development have started many affirmative steps through various schemes [2] first to educate girl child to empower her so that she can become self-reliant and play an important role in the development of the nation. Various schemes are started by Ministry of Women and child development whose main job is upliftment of women through education and empowerment. Recent scheme announced and implemented by honorable Prime Minister Shri Narendrabhai Modi is Beti Bachao, Beti Padhao. Also included are One Stop center Scheme, Women helpline scheme, Working Women Hostel. Apart from these schemes new projects are also started like SWADHAR Greh, which is started to help women in difficult circumstances. Support to training and employment Programme for women (STEP), NARI SHAKTI PURUSKAR, Mahila Police Volunteers, Mahila E-HAat, Mahila Shakti Kendras (MSK) are started. Many such schemes and their details can be found from their website [2].

Department of Science and Technology has realized that women are the main workforce who can compete and excel particularly in the field of science and technology. Large number of well-qualified females have to leave their prestigious jobs due to motherhood problems or family responsibilities. After few years if they wish to join back to their jobs, in many cases it is not allowed or encouraged. This creates a break in their career. Department of Science and Technology (DST) has understood this genuine problem and has started various favorable schemes [3] in the interest of women of the age group 25-57 years. Women scientists are inspired to pursue research in the leading areas of science and engineering. The various schemes initiated by DST are Women scientist scheme A (WOS-A) [4], Women scientist scheme B (WOS-B) [5], Women scientist scheme C (WOS-C) [6]. The details of these schemes can be found from the DST website [3] and hence not mentioned elaborately here. However, all these schemes are meant for women who have pursued higher education. Thus it is important to analyze the female enrollment in higher education and their subsequent progress towards professional employment.

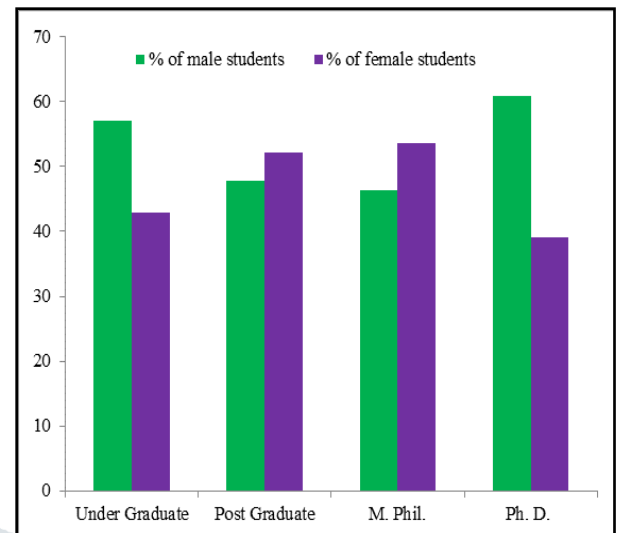
## **SURVEY AND DATA ANALYSIS**

Here we have taken the available data on gender distribution in higher education from National and State Level resources [7]. The latest data of the enrolment of women in Higher Education is shown here for the year 2016-17. Ministry of Human Resource Development (MHRD) has done a very useful survey of total number of males and female students enrolled in higher education at national level. According to this survey, total number of boys are estimated to be 18.6 million and number of girls as 16 million amounting to a total of 34.6 million. Thus girls constitute 46.2 % of the total enrolment which is encouraging. Gross Enrolment Ratio (GER) calculated for students enrolled in higher education for the age group of 18 – 23 years reveals that there are 25.4 % male and 23.5 % females. According to the data, the female Literacy rate in India has steeply growing with the highest female literacy rate of 91.98 % in the state of Kerala and the lowest female literacy rate of 53.3 % in the state of Bihar [8].

From the available data we analyze and report percentage of male students and female students at different levels of higher education starting from undergraduate to Ph. D. level for the year 2016 -17 at national as well as at the Gujarat state level. This data includes 795 universities, 34,193 colleges and 7496 standalone institutes spread over India [7]. The distribution of male and female student



**Fig. 1** shows percentage of male and female students at National Level



**Fig. 2** shows percentage of male and female students at Gujarat state Level

enrollment at UG to PhD level is shown in Fig 1. Though there exist disparities, the trend is very encouraging compared to yester years. In the case of PG and MPhil cases, the enrollment of female overshoots that of male enrollment. The ratio of male students at undergraduate level is 52.7 % and female students is 47.3 % at national level [7].

We analyze similar data for the state of Gujarat and is presented in Fig 2. We find similar trend observed at the National level data, in the case of Gujarat state level enrollment distribution with 57.15 % male students against 42.85 % female students at the UG level. While the progressive enrollment at the PG level is seen as an increase of female enrollment against the male enrollment with a ratio of 54.57: 45.43 in percentage at the national level and similar ratio of 52.15:47.85 in percentage at the state level. Comparing the data at M. Phil. level we find 38.05 % male students compared to 61.95 % female students at national level and same scenario is repeated at the Gujarat state level with 46.44 % male students and 53.56 % female students. But the enrollment ratio at the at Ph. D. level is seen as decreasing with 58 % male students against 42 % female students at national level, the trend at the state level is 60.84 % male students against 39.16 % female students. It is very alarming.

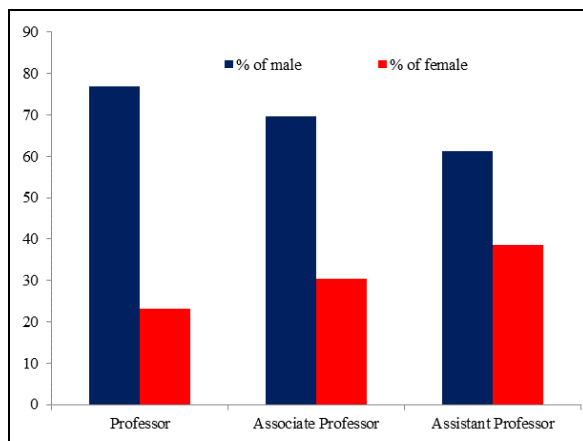
Now we analyze the gender distribution of teachers at different cadres of higher education at the National and State level. Figs 3 and 4 below show the percentage of male and female teachers employed in higher education at the national and state level respectively. The survey includes data from Universities, Colleges and Standalone Institutes as of year 2016-17 [7].

The situation according to the bar diagram (Figs. 3 & 4) is very shocking as the female employment at the higher education teaching profession is very poor compared to that of male employment both at the national and state level. From Fig 3, we find percentage of Professors at various universities and standalone institutes at national level are 23.20 % females against 76.80 % males [7].

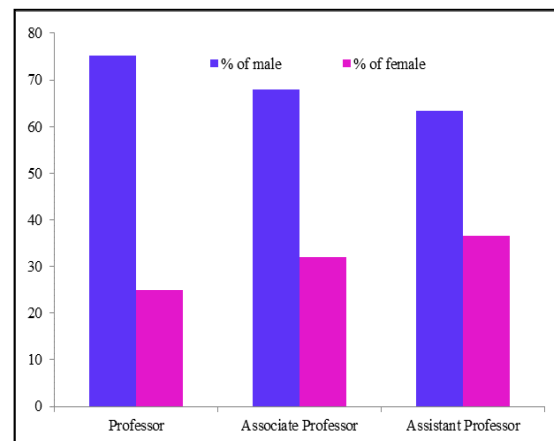
In the cadre of Associate Professor, it is 30.40: 69.60 % and at the assistant Professor's cadre, we find 38.65: 61.35 %. The data from the state level survey as shown in Fig 4 also show the similar trend [7].

Teachers with Professor equivalent scale at various colleges in Gujarat are 75.11 % males and 24.89 % females. Further looking to this ratio for Associate Professors equivalent scale at colleges in Gujarat we find 68 % males and 32 % females. Coming to Assistant Professor Scale we find 63.37 % males and 36.63 % females [7].





**Fig. 3** shows percentage of male and female teachers in various cadres at national level



**Fig. 4** shows percentage of male and female teachers in various cadres at Gujarat state level

It is clear that the female ratio progressively decreasing at the higher positions which require more attention from all the sectors of the society. To analyze the scenario at the micro level we now consider the data for the gender distribution of teachers at different cadres at Sardar Patel University as a case study of a typical state funded University.

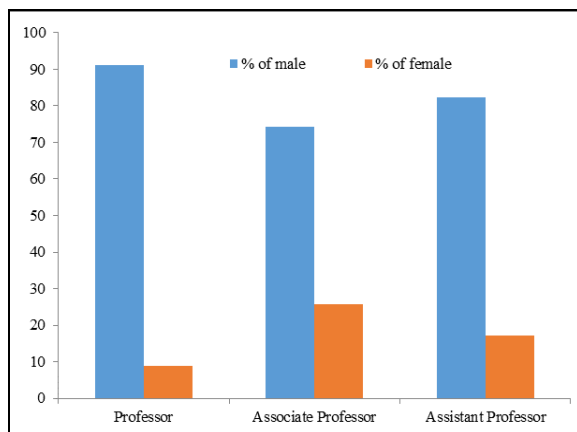
The data surveyed here includes the faculties of post graduate departments such as Physics, Chemistry, Bioscience, Material Science, Electronics, Computer Science, English, Economics, Gujarati, History, Hindi, Library Science, Political Science, Psychology, Sanskrit, Master of Social Work, Sociology, Business studies and Master of business administration. The data surveyed here are taken from the University web portal [9]. The analysis of the data with male versus female teachers at three different cadres is shown in Fig 5. It is very apparent that the female to male ratio is significantly very low compared to the female enrollment at higher education. There is 91.07 % male Professors against a mere 8.93 % female Professors. At the associate professor cadre it is 74.29 % versus 25.71 % and at the assistant professor cadre it is 82.22 % against 17.78 %. The situation warrant urgent attention from persons at the helm of affairs as well as from the society at large.

Now we look at the scenario at the undergraduate college level. For this we consider the employment details from all the colleges managed by Charutar Vidya Mandal [10]. The data available from the website of respective colleges are analyzed here. For better statistics we have included teaching faculty members from twelve colleges. This include V. P. & R. P. T. P. Science College, NVPAS, ARIBAS, SEMCOM, C. Z. Patel, INSASS, Nalini and Arvind Arts college, ISRRE, BJVM, R. N. Patel Law college and Fine Arts college. The combined data of male and female teachers are presented in the histogram shown in Fig 6. We clarify here that for colleges Professor's post is not defined yet for Gujarat state but we have considered Professor's post looking to their basic scale. This will help us to get clear picture and a unique survey from national level to state level to local University level to local College level.

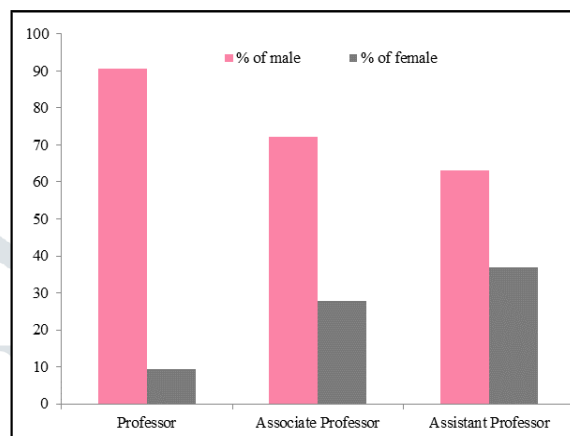
We observe similar trend as observed in the University level also. At Professor's scale we find 90.62 % males against mere 9.38 % of females. Further, for the Associate Professor we observed that there are 72.31 % males against 27.69 % female employees which is slightly better. Finally we find 60.11 % males and 39.89 % female Assistant Professors. We observe that at college level the percentage of the females at the Assistant Professor scale are slightly better compared to the University Level.

After carrying out the analysis of female employment at the higher education, we now analyze the data subject wise to understand gender bias for selecting a subject by women. Thus, the percentage employment of women is analyzed at the disciplines such as science, commerce and arts. For this study we did the local survey at Sardar Patel University Level and also at the college level. We first

present data for Sardar Patel University. Here the percentage of females employed in Science and Arts departments are nearly equal amounting to 40.91 % and 45.45 % respectively while the female teachers in Commerce faculty is as low as 13.64 % [9]. This analysis is shown as Pie diagram in Fig. 7. Similar analysis at the college level is shown in Fig 8. The common thing is that female faculties employed in Science Colleges are much more compared to Commerce and Arts colleges.

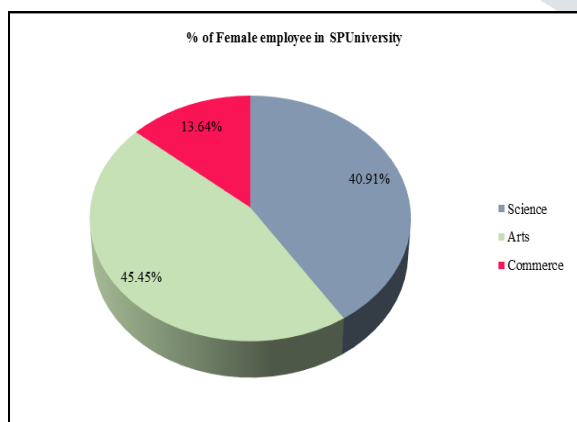


**Fig. 5** shows percentage of male and female teachers in various cadres at Sardar Patel University.

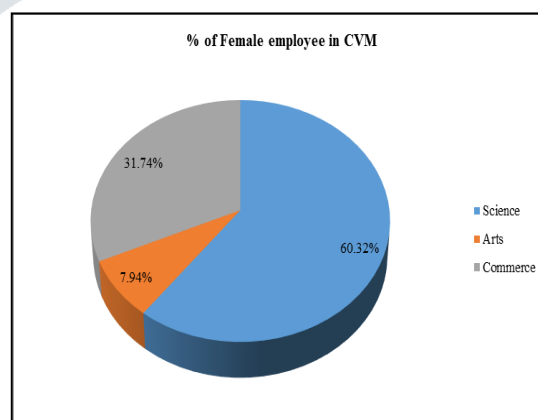


**Fig. 6** shows percentage of male and female teachers in various cadres at colleges run by Charutar Vidya Mandal.

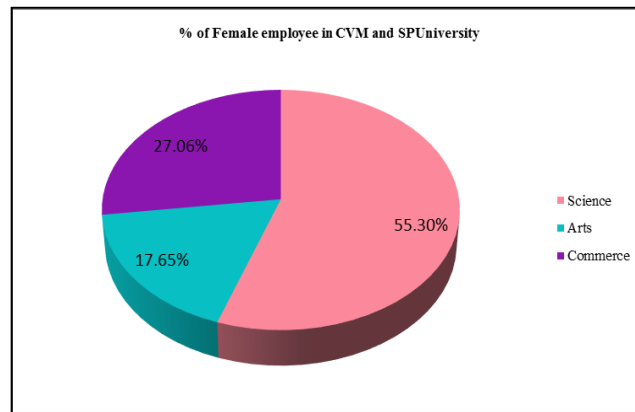
The percentage of female college teachers of the science streams of the colleges managed by Charutar Vidya Mandal amounts to 60.32 % compared to Arts (7.94 %) and Commerce (31.74 %) [10]. It is interesting to study the total percentage of females employed in higher education in different disciplines of Science, commerce and Arts both at UG and PG together within the Vidyanagri of Vallabh Vidyanagar. It is a common notion in the society that most of the female students opt for commerce and arts as their career as Science is tough and requires more attention and involvement. But the present data completely rules out this notion as females have now understood the importance of Science and more and more female study in science and this is reflected in the sample data surveyed here. There is 55.30 % of the female teachers are from Science faculties while 27.06 % of them are from commerce faculty and only 17.65 % from arts faculties [9,10]. This analysis of both the UG –PG teachers employed at the higher education within Vallabh Vidyanagar is shown as Pie chart in Fig. 9.



**Fig. 7** shows percentage of female faculties in various disciplines of Science, Commerce and Arts at Sardar Patel University



**Fig. 8** shows percentage of female faculties in various disciplines of Science, Commerce and Arts run by Charutar Vidya Mandal.



**Fig. 9** shows percentage of female teachers at various disciplines of Science, Commerce and Arts combined at colleges as well as Sardar Patel University.

## CONCULSION

In this paper we have done data analysis of women in higher education starting from the enrollment to faculty level using data available at the, national, state of Gujarat and at the local rural town of Vallabh Vidyanagar. Overall we find an increase in trend of women participation in higher education than the women of their elder generations. Until the middle of nineteenth century, girls and women were educated keeping in view only the traditional household work which includes cooking, looking after the children and family and household works. Now the scenario is changing and the society is witnessing more empowerment of women in society. Though the change is apparent, the number of women in higher education compared to men are still much below compared to their share in our population. Efforts from government, society and females at individual level are showing better results towards participation of women in higher education. Present analysis indicate that women participation at the higher level of their growth in higher education is diminishing and it requires intense efforts and support from all sections of the society. Women as an individual has to rise up in the society and should exercise their civil, social, political and economic rights. This step will definitely improve the present situation of the role of women in the society. The impact of any effort in this direction will have to start from the rural level which will then be echoed at the national level.

The main motto of education is employment. Earlier the educated women were not allowed to do jobs. But now the scenario has changed. More and more women are employed in the prestigious job of teaching. In order to still improve the present situation special drive should be initiated with the support of the center and state administration as a strategy to achieve women empowerment. There should be short term review after (1 year), midterm review after (5 years) and long term review (> 5 years) by experts committees with definite time line to assess the outcomes. The operationalization of the plans must be monitored by the inter-ministerial bodies at national level by the Ministry of Women and Child development which are the two important bodies dedicated for this work at national level. Identical measures can be followed at the state level by a committee headed by chief minister and various sub sector committees involved in activities related to education. These committees must review implementation and operationalization of various schemes and review the progress of plans implemented at state and national levels.

Another observation from the study show lesser percentage of women enrolled at the higher education ended their career in teaching profession at the higher education. The main reason for this reduction is due to the family compulsion towards motherhood and child care apart from other responsibilities at home. As we have seen from our analysis that the number of female enrollment from PG to Ph D is very low. PhD program is a long term (3-5 years) study and by considering the age factor of female, there is a definite overlap of family concern and motherhood. How can it be resolved? It can be

possible only by reducing the minimum qualification required for teaching jobs for women at the entry level in higher education. Once they secure job they must be asked to complete the minimum qualifications like Ph. D. over a fixed period of ten years also. It then can serve both at the family sector as well as at their professional aspirations. So our concrete recommendation here is to relax the minimum qualifications required for women employment at the entry level in higher education so that more women can be accommodated in higher education. Similar schemes are there in research institutes by appointing scientific assistant at the entry level and subsequently after a definite period of their career they are allowed to enroll for PhD program and then they are promoted to scientist positions. This can be replicated at higher education particularly for women.

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