



Women Empowerment in India And Their Contribution in Scientific Institutions

V. K. Khandelwal

Kishori Raman (P.G.) College, Mathura, U.P.

Praveen Ojha

Kishori Raman (P.G.) College, Mathura, U.P.

ABSTRACT

India, being a vast country having diverse culture and resources. And the country where the feminine power is revered as Goddess, but the bias against women is global. Even after sixty four years of Independence, most of the scientific institutions in India the situation of women scientists are struggling. However, the estimated percentage of women in our population is around 48% and women are taking strides in Medicine, Engineering, Agriculture, Advocate, Teaching, Politics, Administration, Police officers, Professionals and even in Military. This itself is an indicator that the feminism is necessary to create balance in the society. There are several scientific government institutions in India where women are providing their services at both junior and senior scientific positions but according to Dr. Vineeta Bal of the institution of Immunology and member of the national task-force on women in sciences still feels that the women rarely get any quite mental space and their struggle is much greater. The present paper explores the position of women scientists in government scientific institution in India vis a vis a challenges arises due to social pressure and indifferences of institutions. At the end of the paper we will discuss some behavioral issues which create problems in labs and also the "leaky pipeline syndrome"

KEYWORDS : Women empowerment, leaky pipeline syndrome

Introduction

Women have also been regarded the second citizen. Men and women are not at par anywhere in the world. But now the major world organizations have recognized the feminine power and believe that women are at par with men. Almost in all walks of life the women play a vital role in shaping the country's future as well as marching ahead in the fields of information and technology, enrolling themselves in higher institutes of learning, heading most of the prestigious institutions in government and non government organization, granting services in the field of medicine and pharmaceuticals, taking strides in the field of research and honoured by several awards and recognitions. The relative pressure of women in scientific and research institutions in various institutes of India is not only a welcome step but also is an indicator of changing mindset of women and their access towards top class engineering and information technology and even in research and scientific institution. Girls outshine boys in almost all board and university examinations, topper in all India ranks of medical examinations, secured first position in civil and engineering services, taking fellowships and providing and facilitating distinctive services to the nation and abroad. Despite all above facts prevailing but still women in profession in scientific and research career, some important and hidden barriers and traditional male baton retard the progress and mindset of male dominated society are potential barriers to the entry and progress of women in such institutions.

Purpose of the present study

The sole purpose of the present study is to find out the position of women scientist in various government scientific institutions and achievement and recognition and to evaluate their resourcefulness, award winning, fellowship, ability to present themselves in various conferences, seminars and symposiums and their relative hurdles and stress in undertaking jobs with male boss and to find out the major problems under way in such a competitive and challenging environment. The study has been focus on the gender bias and social pressure and indifferences among institutions and every attempt has been made to find out the leaky pipeline problems and analyzed before conclusion drawn.

Material and Methods

During the course of study the material is directly obtained from WOS (Web organized services) and from the annual reports of various journals published time to time from eight important government scientific institutions like CCMB, CDRI, NII, NCCS, Bose institute etc. and the entire data is being analyzed and the conclusion can be made by thorough study of the views directly accessed from report and interviews of women scientist concerned. The entire data is to be compiled and presented in the form of table and description.

Observations, data analysis and results

During the course of study limitations of data in terms of the size of samples has been collected from published report and extracted accordingly. All modern societies, women have to play two important duties; one is education and carrier of their own and the other is to contribute to the family and social development of the country. However between career and family there occurs much struggle for setting of the career and to satisfy the social obligations. During the year 2000 to 2011 the number of women scientist in various government scientific institutions at both junior and senior has tremendously increased. The present paper is based on the study of the sample size of eight government institutions like CCMB (Center for cell and molecular biology), CDRI (Central drug research institute), NII (National immunological institute), NCCS (National center for cell science), Bose institute etc.

The reports published by the department of biotechnology, Ministry of science and technology, Govt. of India in 2000 reveals that the trends has changed and the women are more interested in higher institute of learnings particularly middle class women are prone to shape their career, that is why, the university enrollment of women has been rising from 15% to 40% likewise, the post graduate enrollment increases upto 38% in 2000 data. As per journal impact factor is concerned > 5, only 14.5% credited to women in whom only a small number of women received honors and awards. The total number women in senior and junior faculty member in central universities in 2004 data available is 24 in IISc, 22 in JNU and 12 in DU and total faculty as Professor in IISc is 31, in JNU 30 and in DU 31 of which only at the faculty level 19% of women in IISc, 22% in JNU and 9.5 % in DU and at the Professor level the number is merely 16.1% in IISc, 20% in JNU and nil in DU. The other staff particularly women are 21.8% in IISc, 25.0% in JNU and 18.8% in DU (V.Bal 2004) (Table-1, gh- a,b,c).

During 1994 to 2004 only 97 papers of high quality research were published by women which are merely 14.5% of the total score. The govt. funded institutions like DBT, CSIR and ICMR, total number of women in research advisory committee are 11 of which no women member in advisory of CCMB. Their situation is also depressing in receiving awards and honors. During 1994 to 2003 no award is being granted to women in biology out of 19 awards. Total 494 Shanti Swarup Bhatnagar awards were given out since 1958 to 2004 in which only nine were awarded to women which is only 0.94% of the total (V. Bal 2004). the same is the situation in getting fellowship of the prestigious institutions like INSA, IASc, and NAAS which is 3.2%, 4.6% and 4.8% respectively (16). (Table-2, gh- d).

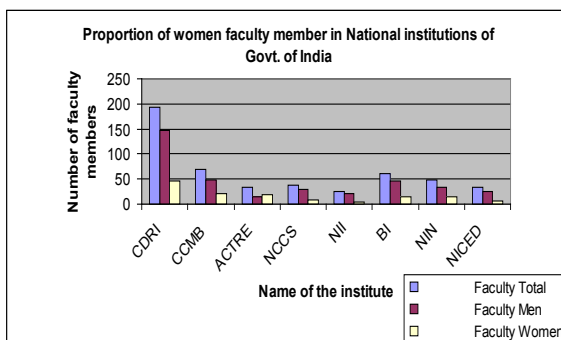
Discussion and Summary

From the above study the following discussion can be made by salient observations of the data, the number of women entered in various govt. institutions is vary much limited. The total samples of 136 women scientist in government scientific institutions as faculty members of which 36 are on senior position and 100 are on junior position on the 8 top most institutions of government of India. The total number of women faculty in central universities like IISc, JNU and DU are 12, 11 and 6 and the faculties as women professor are 5, 6, 0 while the others are 7, 5, and 6 respectively (V.Bal2004).(Table-3, gh.-e).

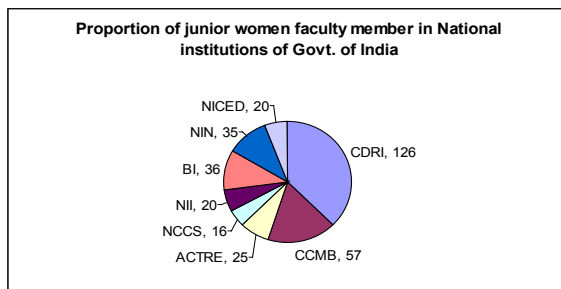
The major default which causes the least number of women entered in higher institutions is the stereotyped behavior of our society in discouraging young women for selecting career in science. This might be due to the constraints of time devotion and social pressure. The family commitment as child rearing is also a major barrier. Women when entered in sciences at high school to Ph. D. level of even to heading department the leaky pipeline problem of what is called syndrome sets in and few women can mitigate this situation otherwise they left the stream in the midway, that is why very few are in faculties, head of the department or head in selection panel and committee. Social and cultural pressure also pressurizes the women to keep out them out in decision making process. Women working in laboratories in Govt. institutions are feeling tough in dealing with their male bosses. Despite of their best efforts, their work still not well recognized or some times women fail to get sanctioned for independent projects.

The behavior of guide in Ph.D. programme is sometimes not favorable to women in comparison to male counterparts. Generally accepted things is that, during selection process both male and female have JRF but the selection committee shows biasness in recruiting female candidates. These results are the outcome of off the records statements made by the women. However; they may not be true because during the selection, the panel has to decide the conditions and complications of the project before recruitment of the candidates.

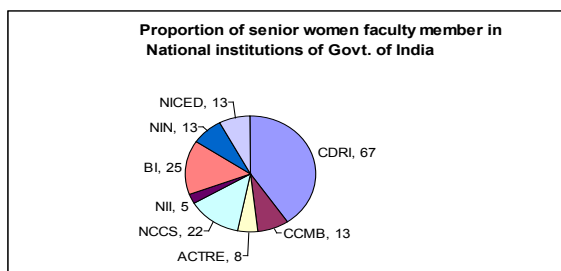
From the forgoing review of the situations arising recruiting, giving assignments, recognizing women in honors and awards, giving them responsibility as head of the department or undertaking them in Directorship or included them in advisory panel, the results are much surprising due to social stigma regarding the competencies and capabilities of women. Even in the male dominant society the general feeling that the women are not fit to handle tough task because they are not equipped in time management and can not devote much of their times. But all the facts are biased and after the study it can be made to conclude that the time has come and when women are more empowered and every educated women who respect herself and stands up for what she believes in, is a feminist.



Graph-a. Proportion of women faculty member in National institutions of Govt. of India.



Graph-b. Proportion of junior women faculty member in National institutions of Govt. of India.



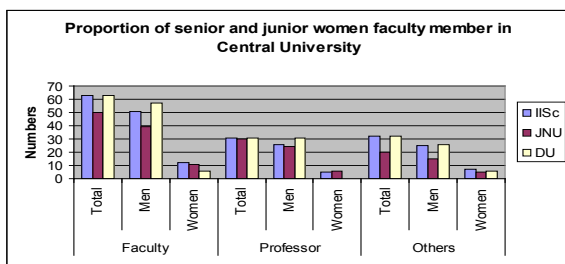
Graph-c. Proportion of senior women faculty member in National institutions of Govt. of India.

Table: 1. Proportion of senior and junior women faculty member in National institutions of Govt. of India. An illustrations

Institutions	Faculty			Senior			Junior		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
CDRI	193	147	46	67	50	17	126	97	29
CCMB	70	48	22	13	12	1	57	36	21
Advance Centre for Treatment Research and Education	33	15	18	8	4	4	25	11	14
National Centre for Cell Sciences	38	29	9	22	18	4	16	11	5
National Institute of Immunology	25	20	5	5	4	1	20	16	4
Bose Institute	61	47	14	25	21	4	36	26	10
National Institute of Nutrition	48	33	15	13	10	3	35	23	12
National Institute of Cholera and enteric disease	33	26	7	13	11	2	20	15	5

Table: 2. Proportion of senior and junior women faculty member in Central University. An illustrations

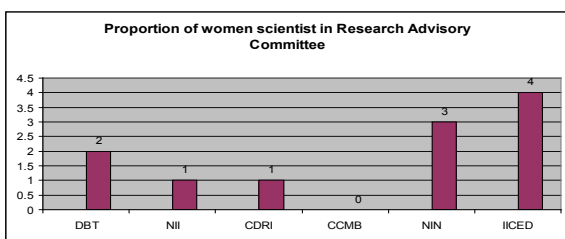
Univer- sity	Faculty			Professor			Others		
	Total	Men	Wom- en	Total	Men	Wom- en	Total	Men	Wom- en
IISc	63	51	12	31	26	5	32	25	7
JNU	50	39	11	30	24	6	20	15	5
DU	63	57	6	31	31	0	32	26	6



Graph-d. Proportion of senior and junior women faculty member in Central University.

Table: 3. Proportion of women scientist in Research Advisory Committee. An illustrations

Institute	Men	Women
DBT	23	2
NII	18	1
CDRI	11	1
CCMB	10	0
NIN	20	3
IICED	15	4



Graph-e. Proportion of women scientist in Research Advisory Committee.

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