Women Leadership in National Development Through Higher Education and Research in Sri Lanka

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Abstract

The population of Sri Lanka was 20.8 million with 51.6% females in 2014. Female literacy rate was 92.6% in 2014 and number of female undergraduates in local universities and higher education institutes (U & HEIs) was 62.3% and 46.4% of teaching staff was females. Decision makers in higher education and research play a main role in the quality of science and technology activities and national development. This study was aimed to determine the trends in female leadership in national development through higher education and research in Sri Lanka. Published data of the University Grants Commission, National Science Foundation (NSF) and Department of Census and Statistics, Sri Lanka were used in the study.

From 2010-2014, in U & HEIs, female academics increased from 42.8% to 46.4% constituting 54.6% of lecturers, 39.1% senior lecturers, 37.1% associate professors and 26.4% professors in 2014. Female non-academics increased from 34.8% to 35.9% making up 58.9% clerical, 50% academic support, 41.9% executive, 35.1% technical and 8.7% skilled workers. In 2013, the highest qualification of most female academics was the first degree (58.1%) and that of males the PhD (62.6%).

Females in the highest management positions in U & HEIs 2009-2012 included Chancellors (1), Vice-Chancellors (3), Registrars (7) and Directors of Institutes (5). Members of the Council of University of Colombo had a female:male ratio of approximately 1:5 (2009-2012). All Deans of Faculties (7) were males in 2009 and their female:male ratio from 2010-2012 was approximately 1:7. Female Heads of departments were 1.5 times lower than males.

Female R&D scientists increased from 33% to 42% between 1996 and 2006 but decreased to 37% in 2010, while those with a PhD increased from 30.5% to 33.9% between 2004 and 2010 but still most female scientists have a bachelor's degree (41.2% in 2010). There were 232 (41.8%) female grantees of the NSF between 2011 and 2015). 55 Scientists won NSF awards for excellence in research during 2010-2014with 34.5% of them being females.

Female academics have increased over time and constituted a higher percentage than non-academics, but most are still in the lecturer grade. Female professors increased with time but remain less than males. Female non-academics were mainly in clerical grades. Female executives increased by about 10% between 2010 and 2014 but were less than males. Highest qualification of most female teachers is the basic degree in contrast to PhD in males. Females in management and governing positions in the University of Colombo were few. Most female R&D scientists had only a bachelor's degree. Nearly half of NSF grantees and one third of winners of research excellence awards were females.

Even though females contribute well to national development through higher education and research, they appear to have challenges in assuming leadership positions and attaining professional qualifications and higher standards in research and that should be addressed to correct gender imbalance.

Introduction:

Women have contributed to the field of higher education and research significantly from the earliest times. Although several women had been able to thrive successfully in the scientific filed, it is questionable whether all women get opportunities for demonstrating their leadership skills in research and national development.

Access to higher education continues to be a problem for women in many countries although improvements have been achieved during last two or three decades. Women are under-represented in the field of science and technology and a clustering of women is seen in the 'traditional feminine fields' such as education, nursing, medicine, arts, humanities and languages. Also women's enrolment in higher education decreases when going up in the higher education system[1].

According to the UNESCO Institute for Statistics, present enrolment of female students to tertiary education is almost twice as male students as that was in 1970. But differences are seen across regions. For example women in less wealthy

regions such as South and West Asia and in Sub-Saharan Africa are disadvantaged when compared to those in wealthy countries. In South and West Asia, there are 74 female students enrolled in tertiary education for every 100 male students while in United States and Russian Federation there are about 129 and 126 female students enrolled for every 100 male students. Globally, both men and women achieve a Bachelor's degree in a near balance. A slightly higher percentage of women (56%) than men obtain a Master's degree but thereafter men surpass women at highest levels of education. Women account for only 44% of PhD students and 29% of researchers around the globe[2]. Furthermore, studies by Organization for Economic Co-operation and Development (OECD) and UNESCO have shown that there is no equality for women in terms of salary, probability for promotions, decision making and leadership performance. In view of these issues, OECD hosted a conference in Paris on International women's day 2016 with the aim of improving women's access to leadership[3].

Higher education, Science and Technology and Research are areas where a higher gender gap is seen. When women are not treated equally, their full potential is not discovered and thereby a country's ability to tap this valuable resource is reduced. Therefore, this has a negative impact on factors such as innovation, economic growth and poverty reduction in the society. Therefore women's input and leadership in higher education, Science and Technology and Research is a current necessity in the whole world.

In 2014, 56.6% of the total population of 20.8 million in Sri Lanka was females. Female literacy rate was 92.6% in 2014 and female undergraduates in local universities and higher education institutes(U & HEIs)was 62.3% while 46.4% of teaching staff was females. Decision makers in higher education and research play a main role in the quality of science and technology activities and national development. This study was aimed to determine the trends in female leadership in national development through higher education and research in Sri Lanka.

Methodology

Women scientists in the country are employed in various institutions such as universities, higher education institutes and research and development institutions. The primary source of data for the study was collected through the relevant institutions. Published data of the University Grants Commission[4-8], National Science Foundation (NSF)[9-11] and University of Colombo[12], Sri Lanka were also used.

Results:

Percentage of female academic and non-academic staff of universities and higher educational institutes under University Grants Commission in Sri Lanka, from 2010 to 2014 shows an increase of female academic staff from 42.8% to 46.4% and of female non-academic staff from 34.8% to 35.9% (Fig. 1). However it could be seen that the female contribution in neither category reached up to 50%.

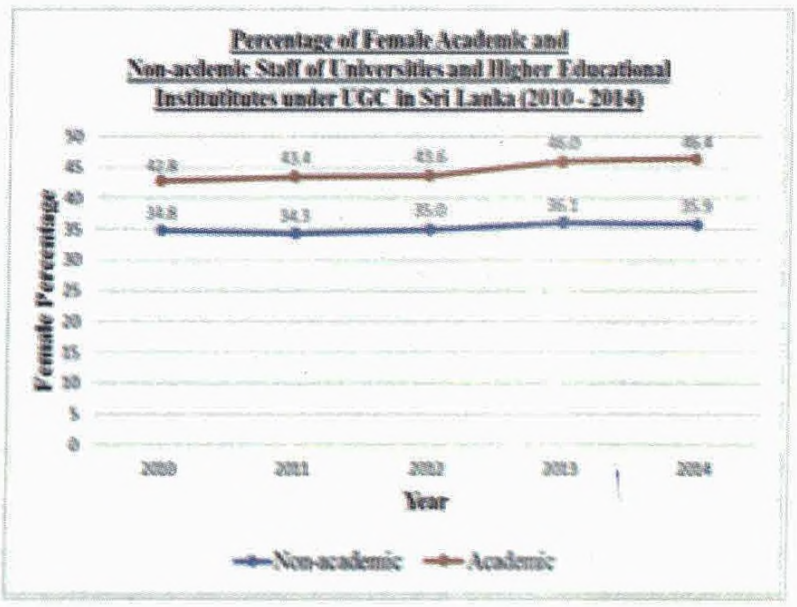


Fig. 1: Percentage of female academic and non-academic staff of universities and higher educational institutes under UGC,Sri Lanka (2010-2014).

The percentage composition of female academic staff shows a gradual increase from 2010 to 2014 (Fig. 2). The percentage increase of lecturers, senior lecturers, associate professors and professors over the 4 year period had been 51.6% to 57.3%, 37.4% to 41.1%, 31.7% to 39.3% and 24.4% to 27.7% respectively. The highest and lowest percentage of females are lecturers and professors respectively. The gender gap in the category of professors is very high when compared to other categories as only one fourth of professors are females.

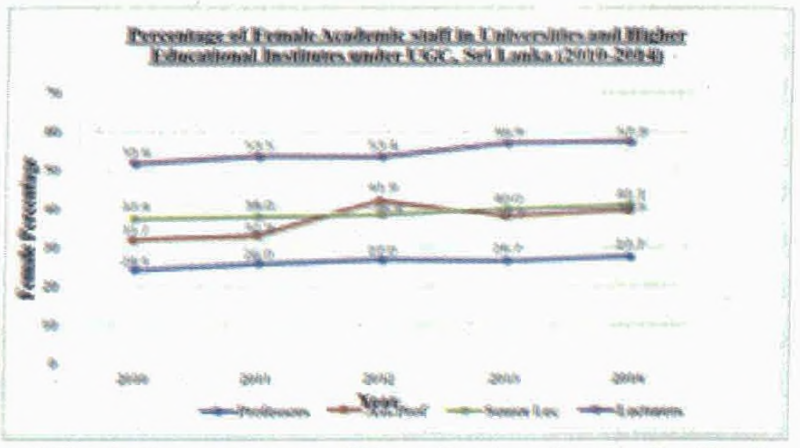
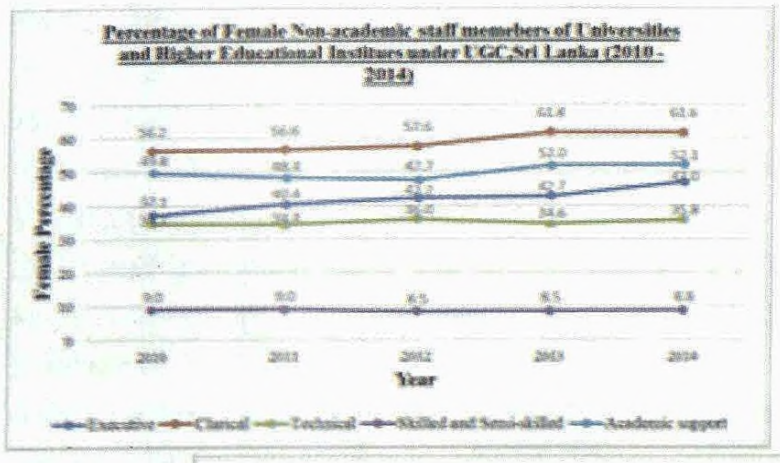


Fig. 2: Percentage of Female Academic Staff of Universities and Higher Educational Institutes under UGC, Sri Lanka (2010 to 2014).

Four non-academic staff categories namely clerical, academic support, executive and technical have

shown an increase in females from 56.2% to 61.6%, 49.8% to 52.1%, 37.1% to 47% and 34.7% to 35.8% respectively (Fig. 3). However skilled and semi-skilled staff percentage hasd decreased from 9% to 8.8%. The lowest and highest gender gaps are shown in clerical staff and skilled and semi-skilled staff respectively.

Fig. 3: Percentage of Female Non-academic Staff members of Universities and Higher Educational Institutes under UGC, Sri Lanka (2010 to 2014).



Management position	M/F	2009	2010	2011	2012
Chancellor	M	15	14	14	15
	F	0	0	1	1
Vice Chancellor	M	16	14	16	17
	F	2	1	2	2
Registrar	M	21	22	18	16
	F	5	2	3	3
Directors of Institutes	M	14	15	14	16
	F	4	4	5	4

F-Female **M**-Male

Table 1: Females in highest management positions in universities and higher educational institutes under UGC (2009-2012).

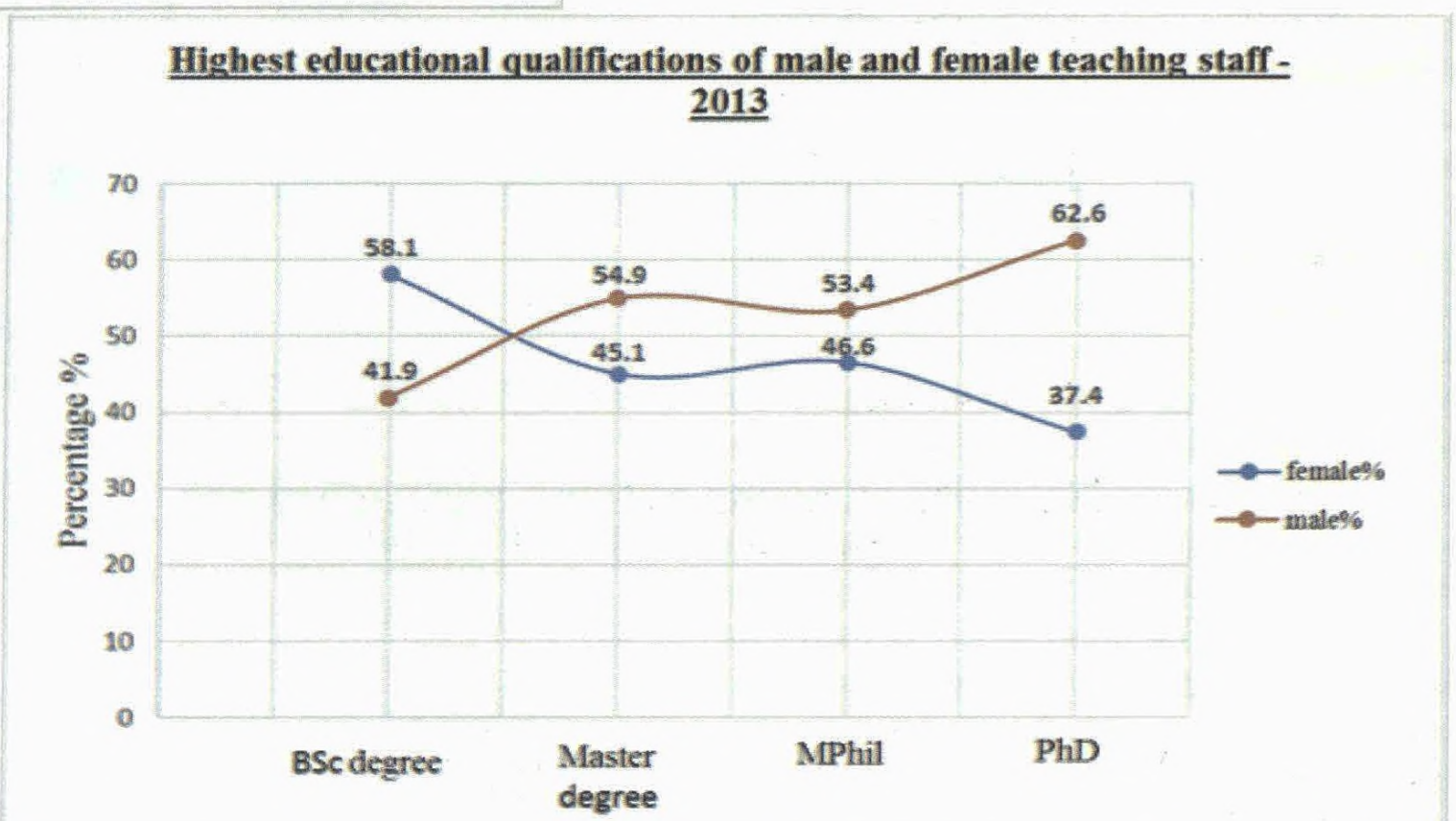


Fig. 4: Highest Educational Qualifications of Male and Female Teaching Staff - 2013

In the year 2013, 58.1% of female academic staff had a BSc degree as the highest educational qualification while only 37.4% had a PhD. In contrast most male academics (62.6%) had a PhD (Fig. 4). Females in the highest management positions in Universities and HEIs from 2009 - 2012 have been comparatively low (Table 1).

Management Position. (UoC)	M/F	2009	2010	2011	2012	Total
Council	**M**	21	23	25	22	91
	F	4	4	5	4	17
Deans of Faculty	**M**	7	7	8	7	22
	F	0	1	1	1	3
Head of Department	**M**	37	35	31	27	130
	F	18	21	23	16	78

Table 2: Composition of highest management positions of University of Colombo, Sri Lanka

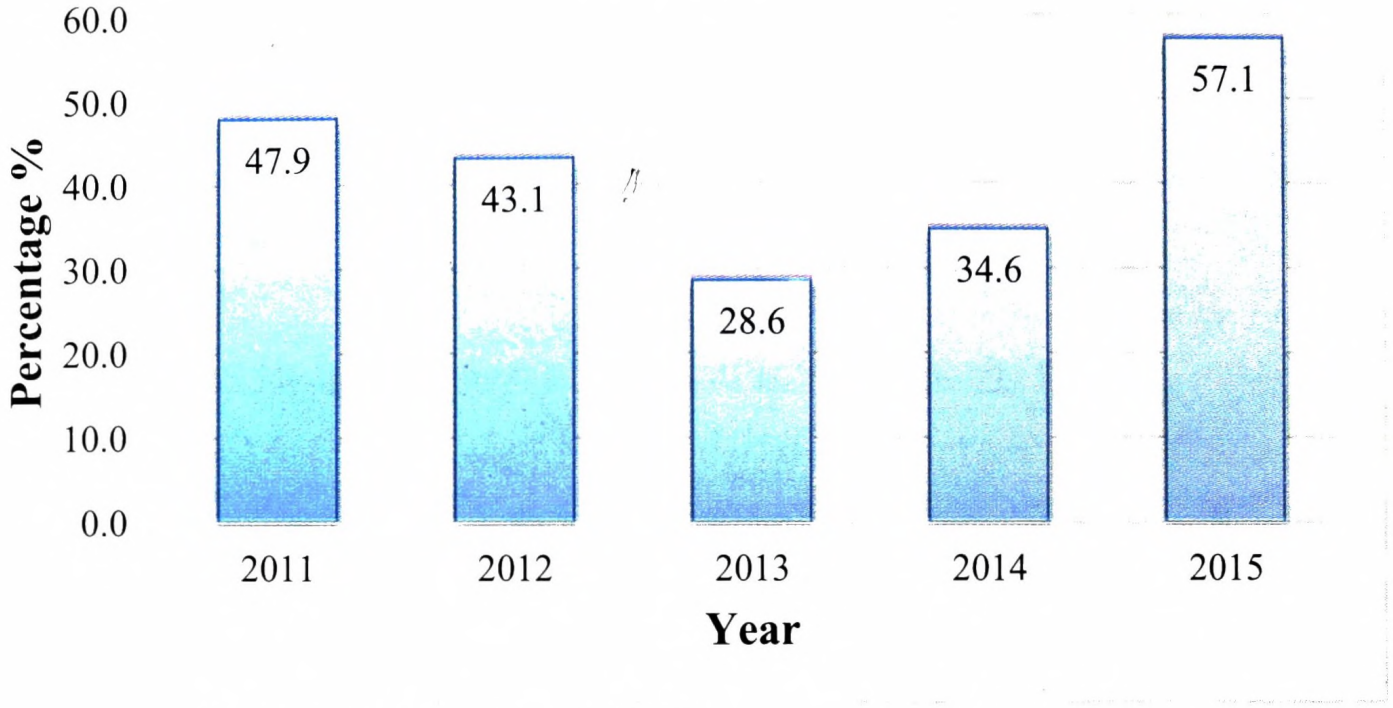


Fig. 5: Percentage of female NSF Research Grantees (2011-2015)

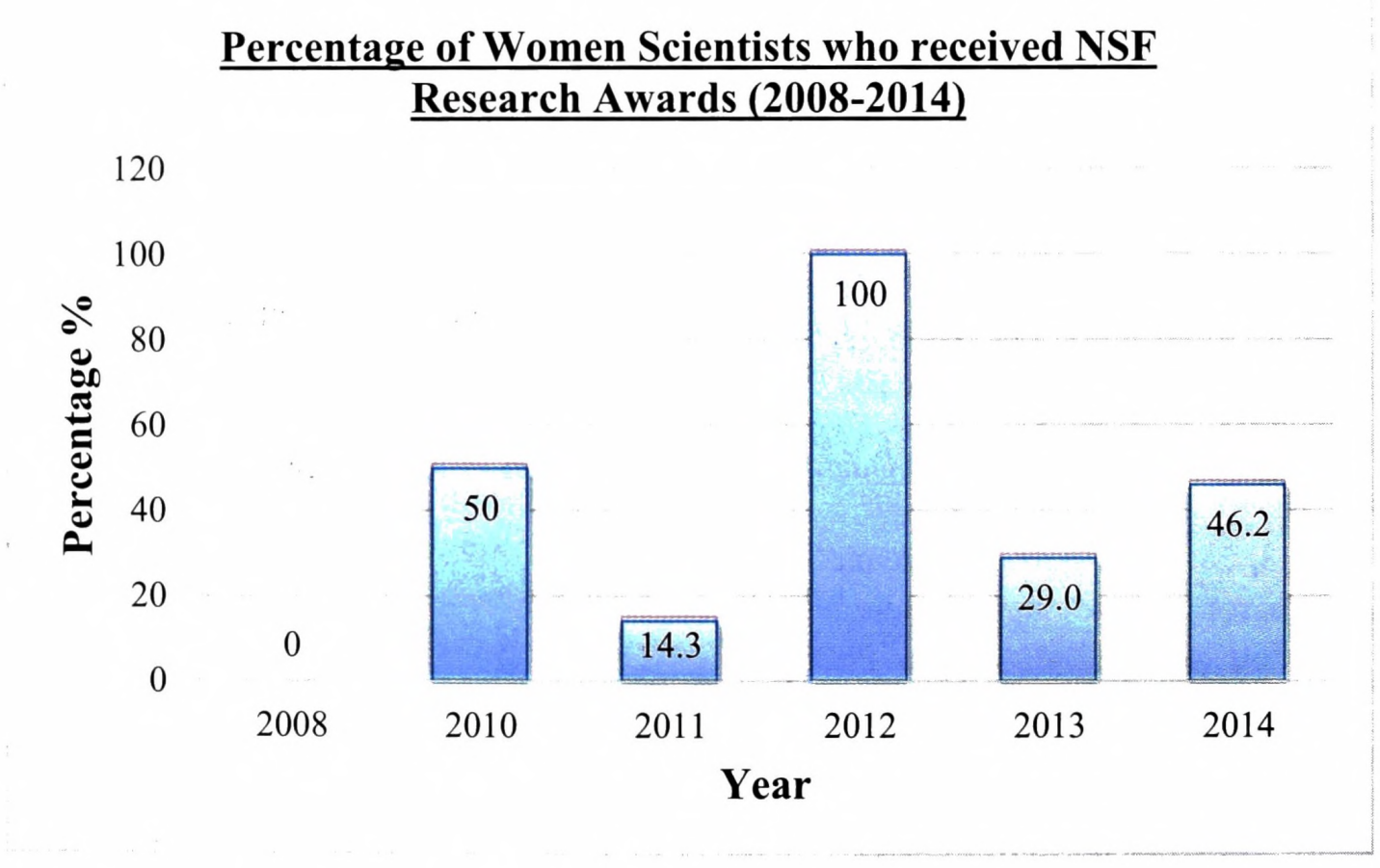


Fig. 6: Percentage of Women scientists who received NSF Research Awards (2008-2014).

The composition of the highest management positions in University of Colombo, Sri Lanka from 2009 to 2012 also shows poor female representation (Table 2). Members of the Council of University of Colombo had a female:male ratio of about 1:5. All the Deans of Faculties (n=7) were males in 2009 and female:male ratio of Deans from 2010-2012 has been around 1:7. Furthermore female Heads of Departments were lower than males by 1.5 times.

Female R&D scientists have increased from 33% to 42% (1996-2006) then decreased to 37%(2010), while those with PhD increased from 30.5% to 33.9% (2004-2010) but still most female scientists have a bachelor's degree (41.2%, 2010).

The percentage of female NSF research grantees has declined from 47.9% to 28.6% between 2011 to 2013 and increased to 57.1% in 2015 (Fig. 5). The total number of NSF grantees was 232 with an average of 41.8% females (2011-2015).

Total number of scientists who won NSF awards for excellence in research was 55 from 2010 to 2014 with 34.5% being female (Fig. 6). The percentage of female scientists who won awards were equal to or below 50% in all years except 2012, when all awards went to female scientists.

Discussion:

From historical times Sri Lanka has been a male dominated society though access to education has made some positive changes over the years. Yet, persistent gender disparities can be seen in certain aspects of social, economic and political fields.

The female component of University academic staff and higher education institutions has risen in the recent past. Female academics, more than non-academics, have increased over time but most were in lecturer grade. Although a large portion of lecturers were women (54.6%), there is under-representation of women in senior positions. Female professors have increased with time but numbers remain lower than males. . It is clear that there is a high gender gap with respective to attaining professorship

Female non-academics were mainly clerical. Female executives increased by about 10% (2010-2014) but lower than in males. Highest qualification of most female teachers is the basic degree in contrast to PhD in males. Most female R&D scientists had a bachelor's degree. Nearly half of NSF grantees and one third of winners of research excellence awards were females.

The Sri Lankan government has guaranteed equal rights and opportunities for both males and females through its constitution and there is no direct discrimination when recruiting women for careers. Therefore it is fair to expect a higher number of women in leadership positions in higher education and research. However the number of women in management positions in Universities and Higher Educational Institutes are still low and females in management and governing positions in the University of Colombo remain low. Therefore it is evident that there is gender disparity in management positions in higher education system of Sri Lanka.

This could be due to reasons which have been identified as global problems for women in research. It is found out that women's admittance into educational leadership depends on their career ambitions, experiences, leadership styles and exposure to leadership. In addition, the scarcity of women in educational and research level management positions could be due to their lack of interest for leadership and difficulties in balancing family responsibilities and career demands. Raising children and household chores are considered female responsibilities in most families. Therefore taking up a demanding career is a distant dream for most females. Lack of proper child-care systems, and domestic support aggravates their situation.

In Sri Lanka NSF research funds are widely distributed all over the country and many quality research studies have been carried out by scientists through these funds. Percentage of NSF female research grantees has varied during the recent past and reached a peak of 57.1% in 2015. This is a vital step towards improvement of participation and leadership of women scientists in research projects.

Better gender balance in higher education positions can be acquired by increasing the number of female students enrolling for post-graduate degrees. Allocation of specific research awards and scholarship programs for women could encourage more women to actively lead research projects.

Even though females have the potential to equally well contribute to national development through higher education and research, there appears to be challenges to assuming leadership positions and attaining higher standards in research and professional qualifications that need to be addressed to ensure a correct balance.

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