**The UNESCO Forum on Higher Education,
Research and Knowledge**

2009 WORLD CONFERENCE ON HIGHER EDUCATION
**The New Dynamics of Higher Education and Research for
Societal Change and Development**
5-8 July 2009 (UNESCO, Paris)

THEMATIC SESSION: LEARNING, RESEARCH AND INNOVATION

PANEL III: Women in Higher Education, Research and Innovation (HERI)
Gains and Further Challenges for a Research Agenda

Tuesday 7 July (14h30 – 16h), Room IX

COORDINATION:
The UNESCO Forum on Higher Education, Research and Knowledge

- **HERI and Gender**

A persistent and transversal dimension of the HERI debate is that of gender. The women's movement and its causes have progressed worldwide. Enrolments in all levels of education have risen and women dominate certain professions notably teaching and health as well as taking a higher profile in governance and political decision-making. Yet, in the HERI fields, certain issues remain unresolved. Worldwide, only very few women lead universities, nor are they numerous in the ranks of top research scientists. Though very active in the economic sector (such as small businesses), women seldom have parity in the major decision-making processes involved. The reasons for this situation need further analysis with the proposal of effective strategies to arrive a full equality and opportunities for women in the long term.

CHAIR
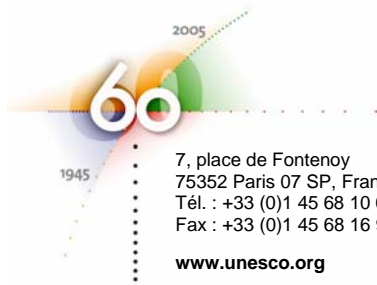• Stella HUGHES
Bureau of Public Information, UNESCO

PANELISTS
• Rose Marie SALAZAR-CLEMEÑA (The Philippines)
*University Fellow, Prof. of Counseling & Educational Psychology,
De la Salle University, Manila*

• Saniye Gülser CORAT (Turkey)
Director, Gender Equality, UNESCO

• Germaine DOOP (The Netherlands)
CEO of Germaine Doop Project Management and Interim

• Iman EL KAFFASS (Egypt)
Director, The Step Up Consultancy Group

• Celeste SCHENCK (USA)
President, the American University of Paris

• Rose Rita KINGAMKONO (Tanzania)
Director, Research Coordination & Promotion, Commission for Science & Technology (COSTECH)

RAPPORTEUR
• Murielle JOYE-PATRY (Switzerland)
International Federation of University Women (IFUW)

Expected Outcomes of the Debate

To assess the progress made with regard to gender issues in relation to the HERI debate and to suggest future strategies for a <u>Research Agenda</u> to inform policies promoting full equality of opportunity for women in the fields of university management, scientific research and in professional life in general.

KEY QUESTIONS

1. MAJOR TRENDS

What are the major trends related to gender parity in the HERI debate with regard to:

- Women in higher education leadership and management

- Women in research notably scientific research

- Women in professional life including entrepreneurship?

2. FURTHER CHALLENGES

What further challenges remain in these areas? For example:

• Middle level academia is the main pool for senior academic appointments. Have women academics reached this level in sufficient numbers to ensure the effectiveness of this conduit? Do other factors, such as gender balance on academic appointment boards, affect women's opportunities at senior level?

• How can the various world regions including the European High Education Area cooperate to encourage women's research and policy best practice in science? Would *regional* policy centres or networks be the best way forward?

• Should pressure be put on governments by national women's groups to legislate on the question of women on company boards? What can trigger greater recognition of the significant presence of women as small and medium-size business entrepreneurs?

3. THE ROLE OF RESEARCH RELATED TO WOMEN IN HIGHER EDUCATION, RESEARCH AND INNOVATION

- What is the state of research on gender issues in these 3 areas?

- Have gains by women led to the assumptions that the gender issue has been resolved and so the regular monitoring of progress and the identification of new problems no longer attract priority attention?

- What new and unresolved issues and problems should constitute a Research Agenda for Women and HERI systems?

- What strategies can be proposed so that gender research can regain support and so help underpin the progress of women graduates – and their more varied career paths – in the Knowledge Society?

The panelists will discuss HERI systems from differing regional standpoints and comment on possible future strategic approaches.

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Bionotes of the participants

CHAIR

• Stella HUGHES
As a journalist, Stella Hughes covered higher education, research and science news as Paris correspondent for "New Scientist" magazine and the "Times Higher Education Supplement". Also a broadcaster with Radio France International, she helped set up the first community radio station in Soweto and trained staff from community radio in other South African cities. In 1997, she became speechwriter to the Director-General of UNESCO. She is now head of the Section for Internal Communication and Networks in UNESCO's Bureau of Public Information. Stella Hughes is also co-author of "Beyond the Glass Ceiling", Manchester University Press.

RAPPORTEUR

• Murielle JOYE-PATRY (Switzerland)
Murielle Joye-Patry has been graduated in Sociology and Public Administration at the University Of Geneva.
She has been a Scientific Adviser of the Conseil des Ecoles Polytechniques fédérales- Zurich and Lausanne- over 3 years. She was also the Secretary General of International Federation of University Women from 1995 to 2005. She has been the Treasurer of the World Young Women Christian Association over 12 years and the Treasurer of the International Federation of University Women over 6 years. Retired professionally since 2005, she is member of the team of IFUW permanent representatives to UNESCO.

• Saniye Gülser CORAT (Turkey)

Saniye Gülser Corat is the Director of the Division for Gender Equality in the Bureau of Strategic Planning at UNESCO. A political economist with an MA in Administrative Studies in European Integration from Collège d'Europe (Belgium), and an MA in International Political Economy from the Norman Paterson School of International Affairs, Carleton University (Canada), she has done PhD Studies in the Political Science Department of Carleton University.

Prior to joining UNESCO in September 2004, Ms Corat taught courses on international development, political economy and gender studies at Carleton University and the University of Ottawa and worked as a senior international development expert for the World Bank, Asian Development Bank, United Nations Development Programme and the Canadian International Development Agency. She was the Chief Executive Officer (CEO) of ECI Consulting Inc. between 1991 and 2004.

• Germaine DOOP (The Netherlands)

Germaine Doop, educated at the University of Utrecht, the Copenhagen Business School and the Erasmus University Rotterdam, is the co-founder of the Utrecht SIFE Foundation. In 2007 Germaine established a representative office in Vancouver (Canada), as a consultant for a Dutch notary's office. Germaine Doop was also a project and interim manager at Rhodia Valley Tented Lodge (Tanzania) in 2008. From 2009, she is a board member of the SIFE Alumni Association and has started as an entrepreneur in project management.

• Iman EL KAFFASS (Egypt)

Iman El-Kaffass, educator and human development activist, is the founder and chair of the board of Step-Up Consultancy for Education Research, Training and Human Development. El-Kaffass is holder of a Ph.D. degree in Higher Education Administration from Bowling Green State University, Ohio, the USA.

She established the equal opportunity and diversity center of the American University in Cairo and was its director from 1994 to 2005. Based on the model set with this center she helped establishing more than 20 centers in government offices in Egypt and was on the advisory board of the ombuds office of the National Council of Women in Egypt.

In 2006, Iman El-Kaffass was appointed by the Prime Minister of Egypt as one of 14 board members of the Egyptian Youth Council setting youth policies. In 2006, she was selected by the J. William Fulbright Scholarship Board as one of 36 outstanding international scholars to join the Fulbright New Century Scholars Program and to contribute research on "Higher Education in the 21st Century: Access & Equity."

She is also an elected chair of the youth sub-committee of the National Committee of the UNESCO in Egypt.

• **Rose Rita KINGAMKONO** (Tanzania)

Rose Rita Kingamkono is currently the Director of Research Coordination and Promotion, (COSTECH) since 2002. She holds a Phd in Food and Science from the Chalmers University of Technology, Gothenburg, Sweden 1997.

With twenty-one of experience in designing, planning, managing, implementing and monitoring food and nutrition research projects in Tanzania, she worked for Tanzania Food and Nutrition Centre (from April 1980 to February 2002). Besides, she is member of the European and Developing Countries Clinical Trials Partnerships since January 2006 and of the Biosciences eastern & central Africa since February 2006.

Rose Rita Kingamkono is the 1st Secretary of the Pan-African Bioethics Initiative (PABIN) and the author of numerous publications and reports on health food science.

• **Rose Marie SALAZAR-CLEMEÑA** (The Philippines)

Rose Marie Salazar-Clemeña is a University Fellow and Full Professor of Counselling and Educational Psychology at De La Salle University in Manila (The Philippines). She holds a PhD in Psychology from the University of Minnesota (USA). Her research interests are mainly in teaching and learning in Higher Education, teacher training, and professional issues in counselling psychology. She is a former Dean of the DLSU College of Education and Executive Vice President of De La Salle-College of Saint Benilde. She is the Vice-Chair of the Asia-Pacific Scientific Committee and a member of the Interim Scientific Advisory Board of the UNESCO Forum on Higher Education, Research and Knowledge.

• **Celeste SCHENCK** (USA)

Celeste Schenck is the President of The American University of Paris, formerly the Provost and VP for Academic Affairs. Dr. Schenck holds a Ph.D. in Comparative Literature from Brown University and a BA from Princeton University. Prior to joining the AUP faculty, she held the Ann Whitney Olin Junior Chair at Barnard College where she won the 1987-88 NEMLA Prize for Papers on Women, Literature and Language and the 1986-87 Florence Howe Award in Feminist Studies. Author of two books on women's literature, and two more on women and development, she was the co-founder and editor of *Reading Women Writing,* an series of Cornell University Press dedicated to international feminist criticism. In recent years, she founded AMICAL, an international consortium of Anglophone academic libraries across Europe, North Africa, the Middle East and Central Asia.

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Session Title: Women in Higher Education, Research, and Innovation (HERI)
Gains and Further Challenges for a Research Agenda

Rapporteur: Murielle Joye-Patry IFUW, Switzerland, muriellejoye@bluewin.ch

Speakers: Stella Hughes, Rose Maria Salazar Clemena, Saniye Gulser Corat, Germaine Doop, Iman El-Kaffass, Celeste Schenck, Rose Rita Kingamknono.

Summary of Main Points Introduced:
There are trends showing an increase in women in higher education, the private sector, and research institutions around the world. Despite this increase, there still needs to be a lot more women in leadership positions everywhere. **Cultural and social views** on gender have a heavy **impact** on enrollment and **equality in higher education**. Even in countries where women are equally represented in higher education institutions at the basic level, they face social barriers in the labor market. Obstacles affect women disproportionately because of their **lack of opportunities and networks** as compared to men. **Equal access does not happen on its own**, we must take innovative steps to create new curriculum and offer scholarships for young women. At the university level there is a lack of entrepreneurial skills training for both men and women. This especially affects women because there is a lack of female entrepreneur role models. **Gender equality** has been declared as one of the two **main focus priorities** on the UNESCO agenda from 2008 until 2013, and the implementation of this priority relies heavily on individuals. Mary Louise Kearney the present director of the UNESCO forum on higher education was praised for her efforts to promote women's empowerment and gender equality utilizing networks, UNESCO chairs, as well as women's research and study centers.

Summary of general discussion:
Higher education is a mirror of society at large. Steps need to therefore be taken to break down gender barriers and create opportunities for women. Oftentimes, there is not so much a lack of qualified women; as **a lack of concerted will to empower them**. Some of the **strategies suggested included affirmative action for women, research to support change in attitude toward women, review of curriculum, and a stronger voice for NGOs and civil society**. The way to avoid dehumanization of HERI institutions is through attaining a critical **mass of women with access to top positions** in administration, academia, research, and tenure positions in teaching. This will ensure that human values and social responsibility are the core of efficient institutions of higher learning. Men have an important role in this debate because gender equity is an issue that affects society as a whole. A **major barrier** that needs to be addressed in research is the **idea that boys are threatened by gender equity policies**. This mental block inhibits women's post graduate success, and proactive measures must be taken to reverse this attitude. Teachers must take a larger part in being positive role models for young women and men. Gender stereotypes must be eliminated in the classroom, not reinforced, and it is up to educators and administrators to ensure that this happens.

Brief Sentence for the Conference Communiqué:
Complement available statistics with strong emphasis on key processes (eg affirmative action mechanisms) that create effective policies for gender equity at all levels within higher education.

WOMEN AND HIGHER EDUCATION TODAY:
THE PHILIPPINE AND ASIAN SCENARIO

Rose Marie Salazar-Clemeña
De La Salle University
Manila, Philippines

Like most cultures, the Philippines has its own creation myth. The story varies from region to region, but all stories have the common element about a mythical bird perching itself on a giant bamboo, and as the bird pecked on the bamboo, it split into two equal halves. From one of the halves of the bamboo emerged a man named *Malakas* (strong), and from the other half came a woman called *Maganda* (beautiful); these two became the first Filipinos. Many people believe that this story presents man and woman as equals, each coming from one half of the same bamboo, even as it reinforces stereotypical ideas of masculine physical strength and feminine beauty.

Perhaps the early Filipinos' view of their origin may partly explain the Philippines' comparing favorably with other countries in the region in terms of gender equality and women's empowerment. Gender gap indices of the World Economic Forum showed the Philippines in the sixth place in 2007 and 2008, the only Asian country in the top ten, distinguished for having closed the gender gap in education and health (WEF, 2007, 2008). The Philippines has the highest percentage of women researchers of any country in the world with a sizeable research community (UNESCO Institute of Statistics, 2006). It is also among the top six countries in the world with more women researchers than men and among the top 10 countries in numbers of female science graduates (Hafkin, 2008).

Notwithstanding these rankings, there remains a pattern of gender tracking, seen in both the graduation statistics and the faculty profile of higher education institutions in the Philippines. There are more men in traditionally masculine fields (Engineering, Architecture, Religion and Theology) and more women in the traditionally feminine fields (e.g., Education, Medical and Allied fields (mostly nursing), Social and Behavioral Science, Humanities, Service Trades, and Home Economics), with the exception of Business Administration, Mathematics, and Natural Science. This channeling of women into gender-segregated employment, which are related to their "primary function" as housewives, suggests that the problem of unequal opportunities for women still exists. An additional implication to consider is that many of the education and nursing graduates seek employment abroad, thus contributing to brain drain and the disruption of households.

It is interesting to note, however, that the highest percentage of female graduates in the Philippines over a five-year period is in Business Administration. This is supported by statistics (Hafkin, 2008) that show Filipino women having a higher rate of entrepreneurial activity, as compared to Filipino men, and even compared to either men or women in other Asian countries known for entrepreneurial innovation. [Hafkin (2008), in a case study of the Philippines and Thailand, notes that the number of women performing early-stage entrepreneurial activity, which is deemed as an important indicator of innovation and potential for participation in knowledge

society, surpasses that of men. In 2006, 22.5 percent of women, vs. 18.4 percent of men, were new entrepreneurs (Hafkin, 2008, citing Allen et al.)].

Further, although the number of women engineers in the Philippines is low as an absolute percentage, it is higher than in many other countries and growing fast. As the rate for male engineering graduates declined by 10.8 percent between 1997 and 2004, that of female graduates improved by 40.6 percent (Commission on Higher Education, Philippines, 2006). Moreover, women graduates outnumber men in Mathematics and Computer Science as well as in Agriculture, Forestry, Fisheries and Veterinary Medicine, despite the fact that more men are enrolled in these programs. These trends, if maintained, augur well for the future of gender parity.

In terms of leadership, 379 out of 2060 tertiary level institutions are headed by women (majority of whom are nuns whose congregations run these institutions). The University of the Philippines and four other large universities in Metro Manila have women presidents, and two of the top institutions run by male religious groups have women in the vice chancellor/vice president positions. Three of the commissioners in our Commission on Higher Education are women.

In the Southeast Asian region, statistics from 1999-2007 show that four countries (Brunei, Malaysia, the Philippines, and Thailand) consistently show higher than 50% of female students in the tertiary level, which is higher than the figures for the East Asia and the Pacific countries taken together (Figure 1).
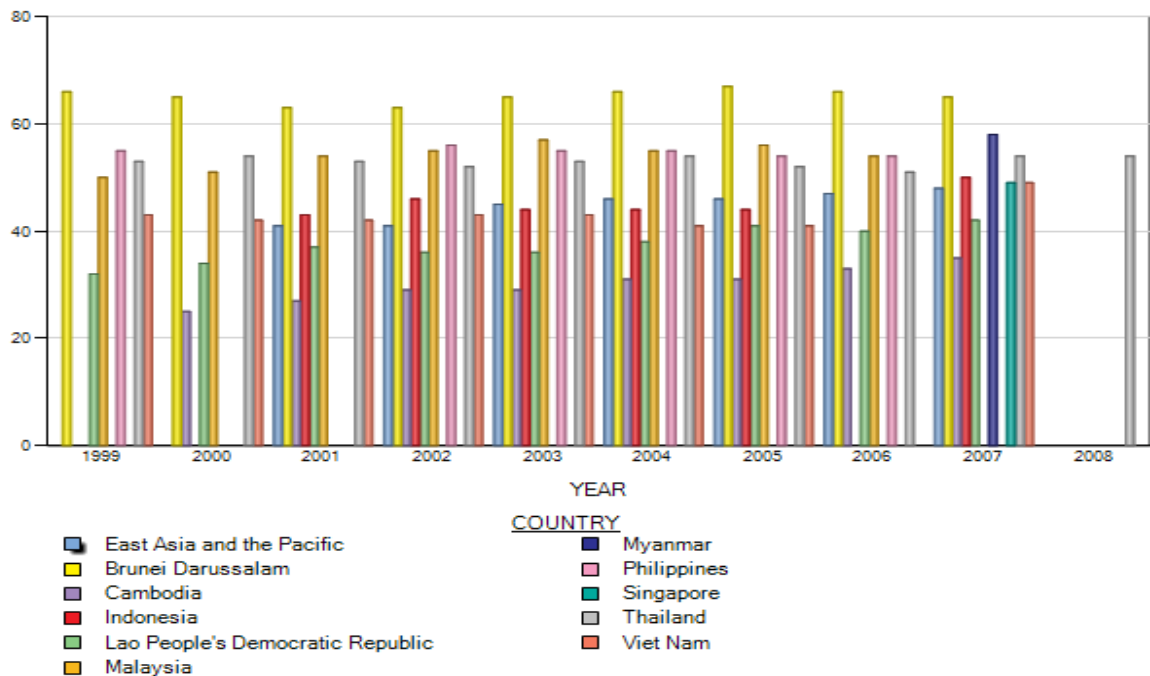

Figure 1.Percentage of female students. Total tertiary

(SOURCE: http://stats.uis.unesco.org/unesco/TableViewer/chartView.aspx)

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Over the same period, the gender parity indices or GPI for gross enrollment ratio indicate that equality has been achieved in these same countries (GPI ≥ 1). The GPI in the rest of the Southeast Asian countries reflect gender differences in favor of males (GPI < 1). For the East Asia and Pacific countries taken together, the GPI gradually increased, reaching parity only in 2007.
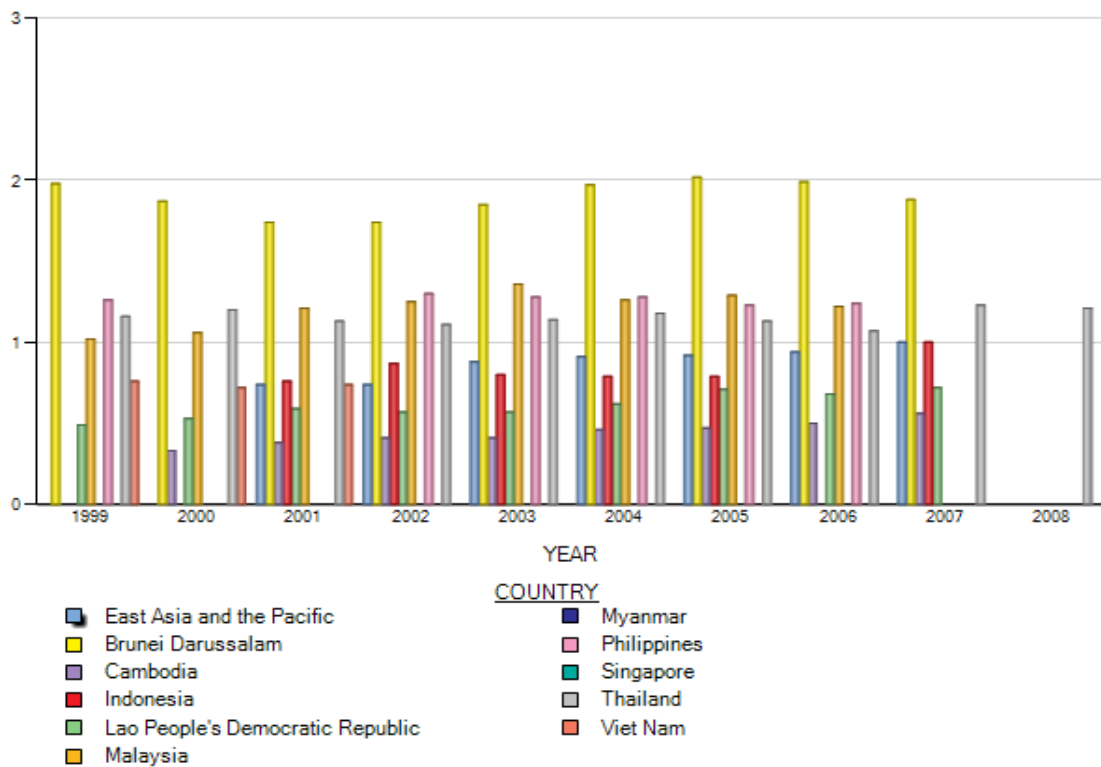

Figure 2. Gender parity index for gross enrolment ratio. Tertiary

(SOURCE: http://stats.uis.unesco.org/unesco/TableViewer/chartView.aspx)

Fifty percent or more of the tertiary education graduates in the same four countries are female, with Brunei and the Philippines hitting 60% or higher. In Myanmar, as many as 70% of its graduates in 2007 were female. (Figure 3)

These figures translate to gender parity indices showing gender differences in favor of females in terms of gross completion rate of the first degree, in the Southeast Asian countries of Brunei, Malaysia, the Philippines, and Thailand. Gender parity is lowest in Cambodia, Laos, and Indonesia. (Figure 4)
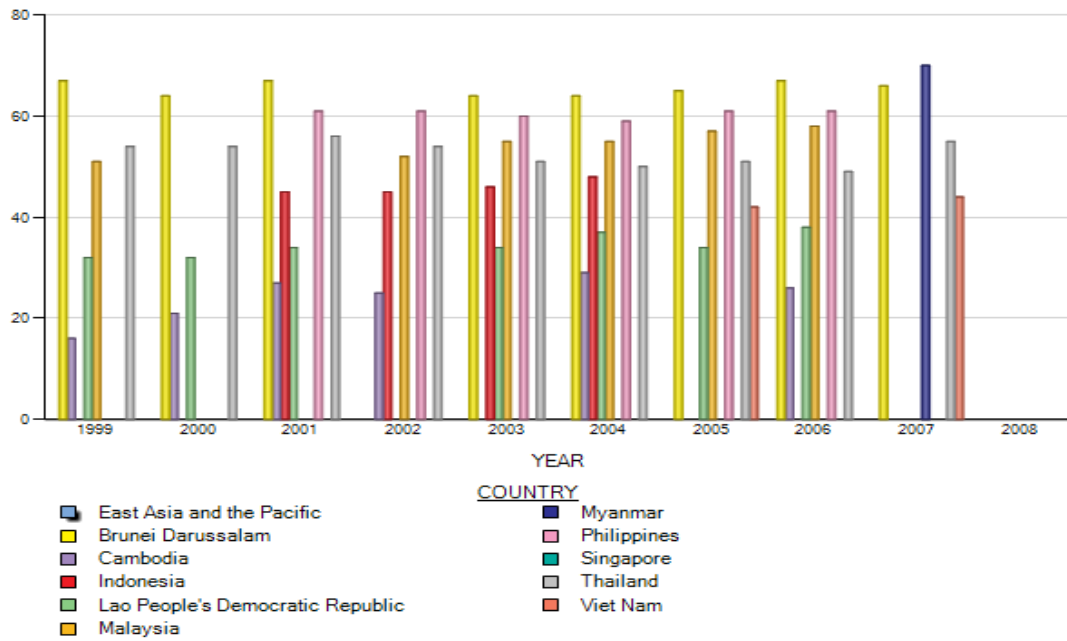
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Figure 3. Percentage of female graduates in tertiary education
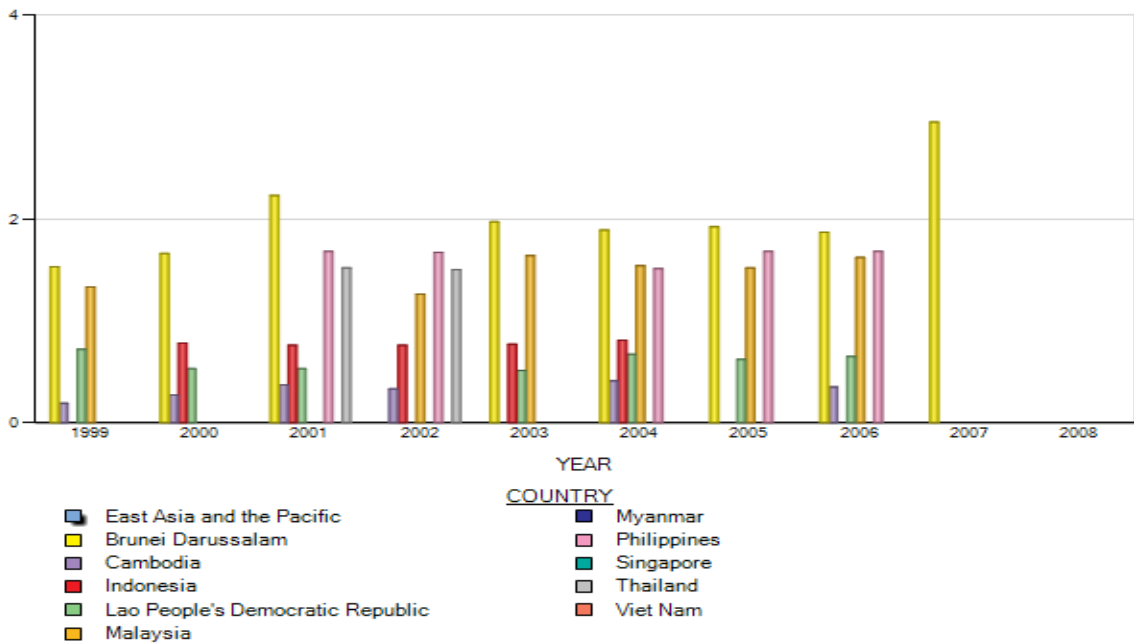
(SOURCE: http://stats.uis.unesco.org/unesco/TableViewer/chartView.aspx)

Figure 4. Gender parity index for gross completion rate, ISCED 5A, first degree

(SOURCE: http://stats.uis.unesco.org/unesco/TableViewer/chartView.aspx)

Issues and Challenges

Leadership and a high level of participation do not necessarily result in overall equality, however. There are important issues and challenges that remain. These include:

- Continuing discriminatory practices in access to education and career opportunities (e.g., biased admission policies, employment criteria). For example, in one university which was formerly a college exclusively for men, the board of trustees (consisting mostly of men) has set the policy that the male-female ratio should remain about 50:50, even though more females clearly meet the cutoff scores. Many classified ads in newspapers show bias by specifying the preferred gender of applicants.
- Gender bias in higher education. There is a need to review curricula, instructional materials, policies, and programs to ensure gender fairness.
- Lack of role models. Although the number of women leaders in higher education is increasing, there are not enough role models for young girls to emulate.
- Viability of single-sex schools: The value of maintaining all-women institutions should be carefully weighed against the option of going co-educational when the viability of an institution is threatened.
- Unbalanced gender representation in management: The under-representation of women in management should be addressed. This would necessitate systematic career pathing programs.
- Influence of mass media on career choices of women: Movies, television shows, billboards often show women in stereotyped roles. Expanded options should be presented.
- Unfavorable social environments (e.g., patriarchal, feudal; social attitudes toward men as breadwinners or men as preferred workers in jobs that require physical activity). Society itself must be transformed to allow paradigm shifts in the way gender roles are perceived.
- Unequal workload/unequal wages. Women in the Philippines have one of the world's highest workloads compared to men (Hausmann 2006; UNDP 2006).

Some Proposals

In light of these issues and challenges, the following strategic actions are recommended:

1. Policy review, development, and implementation
   a. Gender Budgeting: Governments should have specific allocations for gender issues. This should be accompanied by the development, implementation, monitoring, and evaluation of gender and development plans.
   b. Eliminate gender-based discrimination in recruitment, hiring, work assignments, and promotion: Meritocracy should be encouraged.
   c. Funding support for research on gender issues: Funding agencies need to prioritize support for research on gender issues.
   d. Gender balance in management (in HEIs and professional organizations)
2. Program Development
   a. Leadership and career development programs for women

      b. Gender-fair education: curriculum review; gender sensitivity seminars, education for lifelong learning, not just for work
      c. Mentoring for women (preprofessional to postretirement)
      d. Networking (local, national, international levels)
3. Research on:
      a. Unique needs and characteristics of women in HEIs; relation to demographic variables (e.g., what are the socioeconomic levels of women who complete tertiary education?)
      b. Value orientations of women choosing various disciplines
      c. Enabling environmental factors related to women's participation in higher education
      d. Psychological/motivational factors affecting the retention of women in traditionally male-dominated fields

Concluding Remarks

Gains by women cannot lead to the conclusion that the gender issue has been resolved. Regular monitoring of progress and the identification of new problems should continue to receive priority attention.

At De La Salle University and other Lasallian institutions, we try to "teach minds, touch hearts, and transform lives." Higher education must do the same in the interest of advancing gender equality and transforming society. To this end, we may need to develop new creation myths that will not only present men and women as equals, but will offer new ways of looking at women, beyond being mere objects of beauty (*Maganda*), and men as being more than just embodiments of physical strength (*Malakas*).

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U N E S C O

The World Conference on Higher Education

Panel Discussion on 7 July 2009

Women in Higher Education, Research and Innovation:
Gains and Further Challenges

Heather Eggins,
Professor and International Consultant in Higher Education,
Fulbright New Century Scholar in Higher Education (2005-6)
Editor, Higher Education Quarterly

Introduction

The Final Report of the World Conference on Higher Education held in Paris in October 1998, entitled <u>Higher Education in the Twenty-first Century: Vision and Action</u> reflected the considerable discussion of the role of women in higher education. Article 4 of the section on Missions and Functions of Higher Education is entitled 'Enhancing participation and promoting the role of women. It notes that significant progress has been made in enabling women to access higher education but further efforts are needed to eliminate all gender stereotyping in higher education and to consolidate women's participation at all levels and "in particular, to enhance their active involvement in decision-making." The final recommendation stated that "efforts should be made to eliminate political and social barriers whereby women are under-represented and in particular to enhance their active involvement at policy and decision-making levels within higher education and society". The Declaration and Action Plan on Higher Education in Africa in Annex 1 calls for the removal of gender inequity in education and the promotion of the advancement of women in the entire society. "Particular attention should be paid to orienting women towards scientific and technological disciplines." This paper will consider aspects of the progress made in delivering these aims in three areas: women in higher education leadership and management, women in research careers, notably in science fields, and women as board members and entrepreneurs heading small and medium enterprises.

Leaders and Managers in Higher Education

Developed countries such as Australia and the USA were the first to recognise that the numbers of women appointed to the position of President or Vice-Chancellor in its universities constituted a problem. Figures for the US show a slow growth in the two decades from 1975-1995. The number of women chief executive officers at US public institutions rose from 16 in 1975 (11 women in two-year colleges, and 5 in four-year colleges) to 216 in 1995 (138 in two-year colleges and 78 in four year colleges). Overall, in 1995, with the inclusion of private colleges, the number of women CEOs stood at 16%. Back in 1975 it was 5%. Other countries, however, did not exhibit such progress: in 1997 the UK had 10 women leaders out of 135 higher education institutions i.e. 6.7%

Research published by the Commonwealth Higher Education Management Service (Lund 1998) provides detailed information on the situation at that time.

Of the executive heads of universities within the Commonwealth 550 were men, and 50 were women, representing 6.9%. Canada had 15.7% of the Vice-Chancellor posts, the highest figure, and Australia just under 15%. Cameroon had one woman leader out of seven universities: in total six African universities out of 120 were led by women. There were no women Vice-Chancellors in New Zealand.

The situation in recent years shows improvement, but not at the expected level. The American College President Study (ACPS) for 2007 noted that the number of women presidents had risen to 23% in 2006. The Commonwealth Universities Yearbook for 2008 (Singh 2008) reports that 23 of the 35 countries in the Commonwealth still have all their universities led by men. The picture is one of a hierarchical pyramid with fewer and fewer women at the higher levels (Garland 2008).
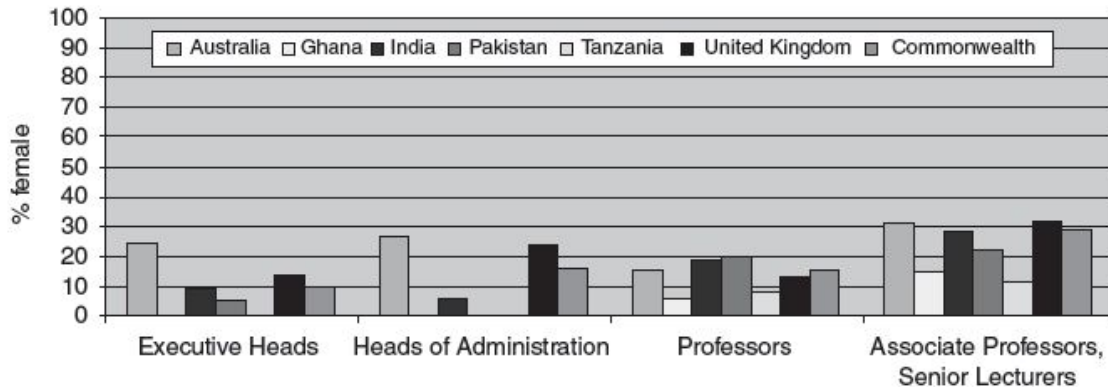
Figure 1
Women's participation in management and academic leadership in selected Commonwealth countries, 2006.
Datasource: Singh (2008, 11–33).

Indeed there has been little change in women's participation in leadership in Commonwealth universities in the last ten years: only one in ten Vice-Chancellors or Presidents had been a woman. Among senior academic positions in Commonwealth countries there had been some slight improvement: there were 9.9% Professors in 1997, and 15.3% in 2006. But women Heads of Administration had decreased from 18.6% to 16.2%. Figures from the European Commission (She Figures 2006) indicate that only 15% of those at the highest academic grade (Grade A) in higher education in the European Union were women.
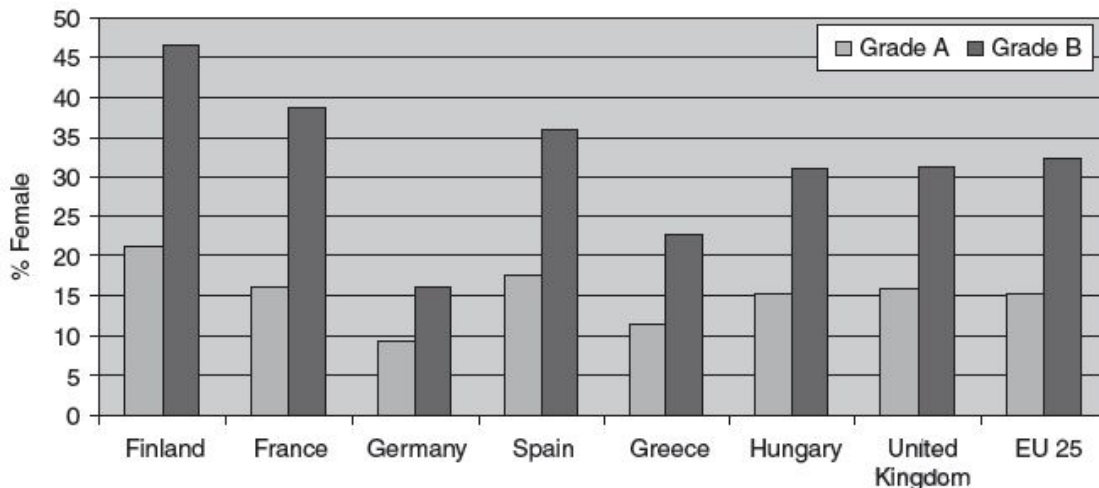

Figure 2

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Proportion of female academic staff by grade1 in selected countries of the European Union, 2004. Data source: European Commission (2006, 57).

Among UK higher education institutions women numbered 42.3% of academics in 2006/2007, but only 17.5% were professors. Currently there are 19 women CEOs who are members of Universities UK, out of 133 institutions (14%). Thus although there has been some improvement over the decade in the number of women worldwide who become university leaders, it is a far from satisfactory situation. Representation at other levels of leadership has increased marginally but the firm basis from which the top posts are likely to be drawn has not been sufficiently established.

Research and Science

The UNESCO World Science Conference held in Budapest in 1999 gave attention to the issue of women in scientific research. Article 3.3 of its Framework for Action recommended that 'Government agencies, international organizations and research institutions should ensure the full participation of women in the planning, orientation, conduct and assessment of research activities. It is necessary that women participate actively in shaping the agenda for the future direction of scientific research.' Among the points that emerged at the conference was that inadequate preparation at the secondary level remains a handicap for young women seeking a scientific career; that the prevailing method of assessing research appeared to disfavour women who frequently were involved in managing heavy personal and professional responsibilities; and that women's confidence in their academic capacities was often undermined in unfriendly study contexts while the female perspective on environmental matters was not sufficiently encouraged. Other aspects of the topic are examined in Gender and Higher Education – A Sea Change (1999).

During the last decade the debate about the lack of women researchers and how best to rectify the situation has continued, with a growing awareness worldwide of its importance. UNESCO is itself involved in encouraging the recognition of high-achieving women in science. The 2009 L'Oreal-UNESCO Women in Science Awards offers fifteen Fellowships for the promotion of young women who are carrying out research in the life sciences. The attendant publicity helps to get the message over to the public that a scientific career, for a woman, can be rewarding and exciting.

A particular issue is that the number of white males under 45 in the western world is dropping steadily. By 2011, for instance, only 20% of the UK workforce will fall into that category. Women are now over 45% of the labour marker. Against this background the under-representation of women in science and engineering threatens the country's global competitiveness.

A special issue of Research *eu, the magazine of the European Research Area has recently been published on the topic of Women and Science: the March towards Equality (April 2009). One of the articles neatly sums up the position for women in science:

> " The global situation of gender mix in the training and careers hierarchy is described by a simplified scissors diagram. Off the starting blocks, girls do well. In 2003 they made up more than half the university population. 59% went on to complete their basic courses as against 41% of male students. But the scissors cross once one reaches the doctoral preparation stage and the other levels that open the way to academic and research careers."

However, the report notes that in the 'hard' sciences and engineering at no level does the proportion of female graduates or students exceed half the number of males. The number of women unable to progress at each stage of the career ladder intensifies, and at the top grade of

management posts, there is one woman for nine men. Virtually no change in the figures has taken place between 1999 and 2003.

In the high tech sectors of European industry only 29% of the 'graduate' jobs are held by women, and this figure appears to stagnate, while the percentage of men grows by 2% per year. However, there has been, since 1999, a growth in the number of women doctorates (+7%) which is higher that that of men (+2%). This is most notable in Central and Eastern Europe. Doctorates in Life Sciences have 54% women, Physics 33%, Architecture and Civil Engineering 31% and Industrial Engineering 17% (2003). Individual countries, however, have very different numbers. Within engineering Hungarian PhDs are 33% women, and Finnish and French PhDs are almost 25% women, but in Germany they constitute only 7% women. Women who are active researchers in the EU make up around 30% of the total. Within higher education institutions, they are 35% and the same figure in the government sector. The business sector is lower, with 18% of women researchers.

Another phenomenon, the attrition of women doctoral scientists, which thereby severely weakens the numbers who might move later in their careers to senior scientific management positions, is being examined and addressed by a number of professional bodies worldwide. Examples include the recent publications of the Royal Society of Chemistry 2009) <u>The Chemistry PhD: the impact on women's retention</u> and of the Biochemical Society (2009) <u>The Molecular Bioscience PhD and Women's Retention: A Survey and Comparison with Chemistry</u>. The findings indicate that certain equality and diversity issues at doctoral level appear to operate more markedly in chemistry than in molecular biosciences.

Several projects worldwide have been developed aimed at addressing the issues. Examples include The Womeng project in the EU which ran from 2000-2005. It identified the obstacles; the choice (or rejection) of sciences, successes and failures in the course of women's careers, and the influence of prevailing cultural and social pressures. A number of courses of action were proposed: increasing the self-confidence of girls in those subject areas at school and at university; placing greater emphasis on the service the scientific and engineering professions offer to society; giving greater visibility to women researchers at laboratory open days; introducing multidisciplinarity to the study courses (eg. languages, ethics) to complement the technical courses; and updating corporate and research culture to enable women to pursue a career and have a fulfilled family life without being penalised.

<u>Prometea</u> has more recently been established to examine the situation of women engineers and make proposals for improvements. Its first European conference, on 'Gender and Diversity in Engineering and Science' will be held in Dusseldorf in September 2009.

The Royal Academy of Engineering, in its booklet entitled 'Inspiring Women Engineers' (2009), offers a succinct summary of why change is needed and what can and is being done to attract more women into engineering. Schemes include the London Engineering Project, Engineering Leadership Advanced Awards, Sainsbury Management Fellows Scheme and Research Fellowship Scheme.

Leaders at Board Room level and Entrepreneurs

Board Room

There have been noticeable changes in attitude to the presence of women on the boards of companies over the last ten years. A US headhunter commented "A dozen years ago, you had to convince people to consider a woman, now it's a given that women should be on boards. " (Thomson and Graham 2005). However, even now the figures are far from high. The figures for women on the boards of the top companies in the developed world remain low (Thomson,

4

Graham and Lloyd 2008). Norway, Sweden and Finland are the leaders. In Norway legislation has been effective with Norway laying down a target of 40% which was reached in 2008. Sweden announced that listed companies should aim to have 25% board members and Spain has established a quota of 40% by 2015. Latvia, Romania and Slovenia also have good percentages, with Slovenia numbering 22% on the boards of its 50 largest companies.

Overall, worldwide, the growth of women on Boards of Directors has shown only marginal increases. In the US those serving on Fortune 500 companies increased from 14.8 % in 2007 to 15.2% in 2008. In Europe 39% of companies had no women on their boards, and this is echoed by the shortage of women at top management levels in European companies. But those women who do reach executive levels get there more quickly, at a younger age and have moved up the career ladder at a fast pace. Asia Pacific is also beginning to appoint more women: the first signs of change are noticeable in Japan. The key committees are also attracting more women. Women's presence on company committees has increased steadily in the US, with rises from 2001 from around 10% to 20% or over in 2007 on Nominating, Compensation and Audit committees.

Interestingly, McKinsey and Co. (2007) found that 'companies where women are most strongly represented at board and top management level are also the companies that perform the best.'

Entrepreneurs

UNESCO has been involved over many years in encouraging the development of entrepreneurial skills. As early as 1994 it had developed a model Curriculum for Entrepreneurial Skills for small businesses, initially provided for Asia and the Pacific Region. This was subsumed into the work of the International Centre for Technical and Vocational Education and Training, which offers a training package in entrepreneurship 'Starting my own small business.' While this is not specifically developed for women, it has been of assistance to many women who wish to start new businesses in the less developed world. The work of WASME, the World Association of Small and Medium Enterprises, had also been of importance. The availability of Microfinance and microcredit has had a major impact on enabling women to establish successful small businesses. There is strong evidence that microfinancial services for women have a far greater social and economic impact on the family and society than do similar services run by men. John Hatch, founder of FINCA International, which promotes short-term loans to women, stated "The Philosophy of FINCA's village banking is that the fastest and most effective way to transform society is through the empowerment of women. When short-term credit in the hands of women is invested in rapid turnover, high-yield income-generating activities, a woman's confidence and self-esteem receives immediate and continual reinforcement. Her empowerment – and through her transformation of her family and the community – occur much quicker." This work, which is informal rather than formal, can do much to build the economy of countries with few resources.

The fact remains, however, that there are too few women in business worldwide. The natural growth in the number of women graduates in not enough to bring about change. Figures for the US, which has had an effective political lobby concerned with women's enterprise since 1979, are very much higher than elsewhere. Female majority-owned enterprises account for some 6.5 million companies, 28% of total US business. The UK, by contrast, has women owning between 12.3-16.5% of UK business. Ireland, France and Germany are comparable. Indeed, the rates of female self-employment grew in only five OECD countries between 1990 and 2003 – the Czech Republic, Mexico and Slovakia, with small increases in Canada and Portugal. The rates of female self-employment are higher than the male equivalent rate only in Turkey, Japan and Mexico.

In recent years a number of barriers to women establishing business enterprises have been eased. Access to finance to capitalise a business, in particular, has been improved, with banks recognising the importance of the female market. Even so the number of women entrepreneurs has not shown dramatic growth in recent years. The 12th annual Women in Business conference

was held in May 2009 in London. The conference aimed to promote business-to-business networking and the exchange of knowledge and skills between business women from the UK, Gulf and wider international business community. In earlier years it generated $10m in deals. Women currently control some $14 trillion in assets internationally. Figures show that for the UK alone 46% of millionaires are women: this figure is expected to increase to 53% by 2020. The boosting of women entrepreneurship is thus essential to improving the productivity and competitiveness of global nations.

Developing the skills for success

Each of the areas discussed relates to women who are seeking to be at the top of their chosen field. They all need to be persistent, focussed, multi-skilled and to know how to use networking effectively. One headhunter wrote: "the women who make it to the top are usually strong, competent, don't need close management, read all the newspapers, apply themselves, are hard-working and focussed and set out the basis on which they're willing to work." This applies equally to those in higher education leadership and management, to those in business and to those seeking research careers.

There are a number of initiatives that can be taken by universities, professional and voluntary bodies, and companies to facilitate women's career progression:

- The encouragement of women's networks. These will give increased confidence and political adeptness to their members.
- The establishment of career development programmes for women. These can provide help and support in career planning, building self-confidence, providing flexible working hours and environment, enabling understanding of the difference between male and female communication and leadership styles, and offer advice about particular matters related to their individual area of interest.
- The use of some all-female group work, where male/female dynamics are avoided.
- The availability of advice on applying for senior posts, preparing carefully crafted CVs for each particular post, advice on raising personal profiles, and advice on seeking the personal support of senior executives.
- Mentoring is a particularly important tool, which has shown to be successful in university settings, in boardrooms, in research and in business. The National Women's Enterprise Mentoring Network in the UK found that 79 mentoring schemes were operating, with nearly 40,000 participants who were women (49%). Of these programmes, 25 were specifically for women.
- The provision of executive coaching. This can be particularly advantageous for women seeking senior appointments in universities and/or business.
- The establishment of a focal point in a country for women's enterprise-related research and policy best practice. In October 2008 the Prowess National Policy Centre was established by the UK government to carry out these aims. Similar bodies might relate to other areas of concern relating to women.
- Making a range of training packages available for women on such topics as career navigation and energising entrepreneurship
- The establishment of more robust pipelines to facilitate career progression – in science, business and the universities.

The presence of modern technology can enable many of these suggestions to be delivered partially over the internet, and thus reach women who were previously unable to access such information and training.

Much needs to be done to make society a more equitable place for women who seek to be leaders. There has been marked progress in some areas since 1998, but in several others progress has been

much slower than was hoped. However, global awareness of the need to move to a more equitable society, combined with the knowledge of the benefits women can bring to the economy and society of a country, should help to bring about much more progress in the coming decade.

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WCHEEgginsPaper

WOMEN IN HIGHER EDUCATION, RESEARCH & INNOVATION: THE PLACE OF WOMEN, CASE OF TANZANIA

RR. KINGAMKONO
TANZANIA COMMISSION FOR SCIENCE & TECHNOLOGY

UNESCO-Forum for Higher Education, Research & Knowledge

5-8TH JULY 2009, UNESCO, PARIS

Introduction

- HERI organisations in Sub-Saharan Africa have and still do some gender equity promotion in their institutions

- Key players have been women activists such as:
  - Forum for Africa Women Educationist
  - Female Education in Mathematics and Science in Africa

- Policies in HERI
  - Promoting equity in student enrolment
  - Against gender based violence and discrimination in all endeovers

- The Association of Africa Universities' Working Group on Higher Education has developed toolkits for training in gender mainstreaming in HE

Introduction

- Scholarship schemes exclusive for women introduced as early as 1994

- National policies fostering gender mainstreaming

- The Constitution of the URT for example emphasizes equity, and safeguards gender freedom and security in all necessary aspects of livelihoods

- Tz has also adopted the Beijing Declaration and Platform for Action on access of women to education, training and employment

- All sectoral policies and Acts have some policy statements intended to ensure gender equity

Girls Enrolment in Primary, Ordinary and Advanced Secondary Education
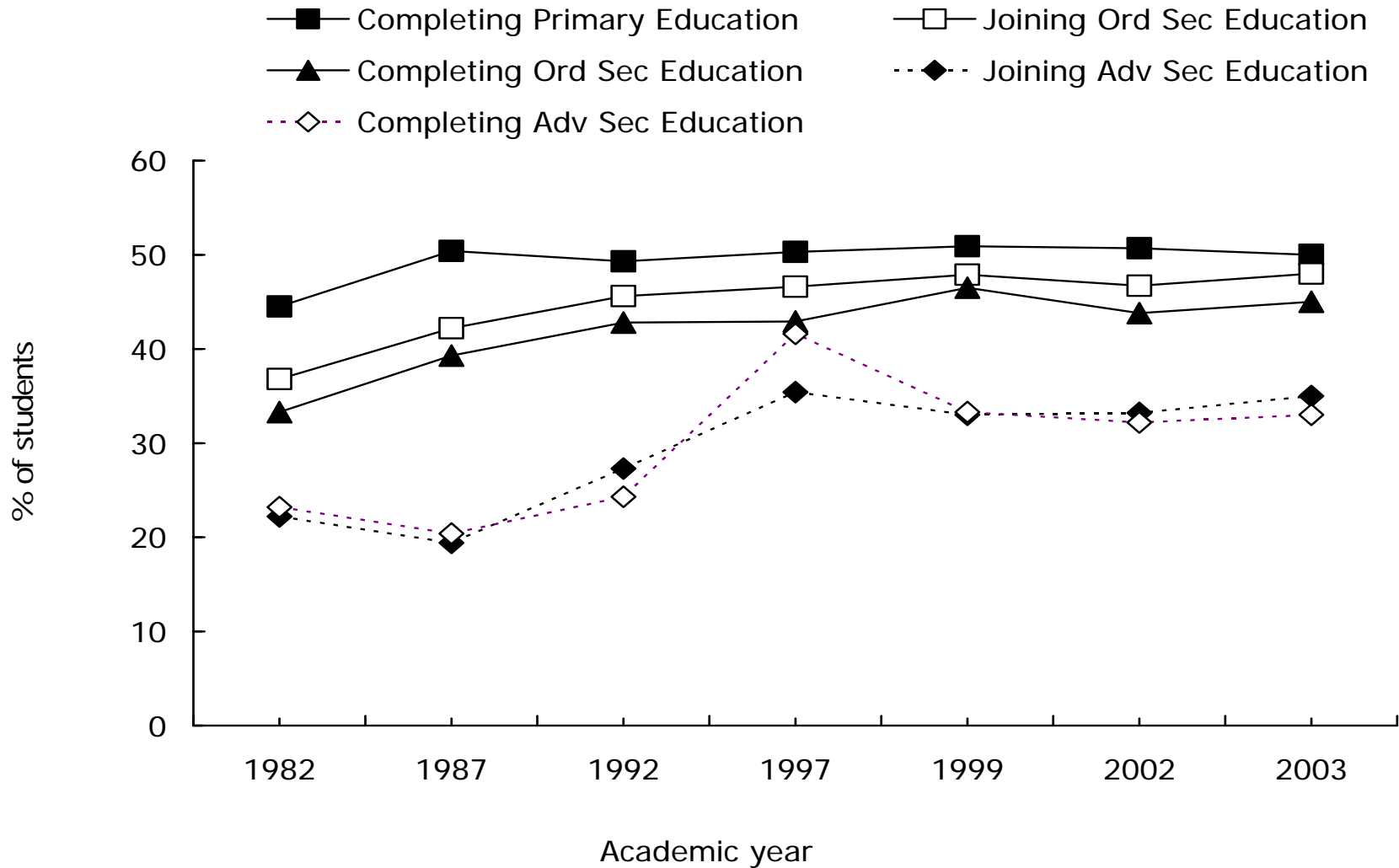
Undergraduate Students Enrolment in Arts/Sci in Tertiary Educ. by Gender

- Total of:
  - 8 Public
  - 13 Private Universities
  - 3 Tech. Inst &
  - 14 other Inst. in other ministries

(MSTHE, 2004)
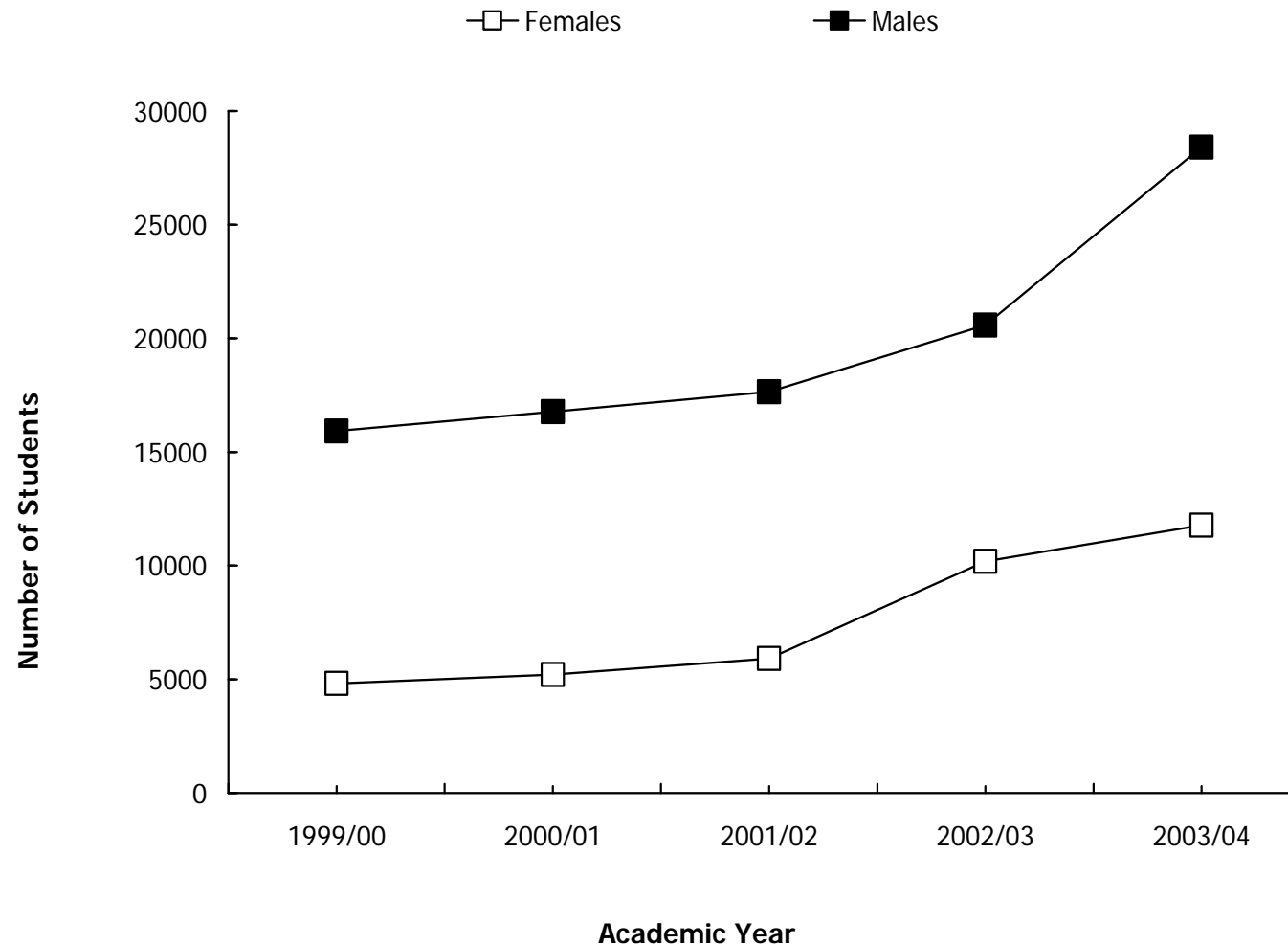
Teaching Staff in Public and Private Universities by Gender
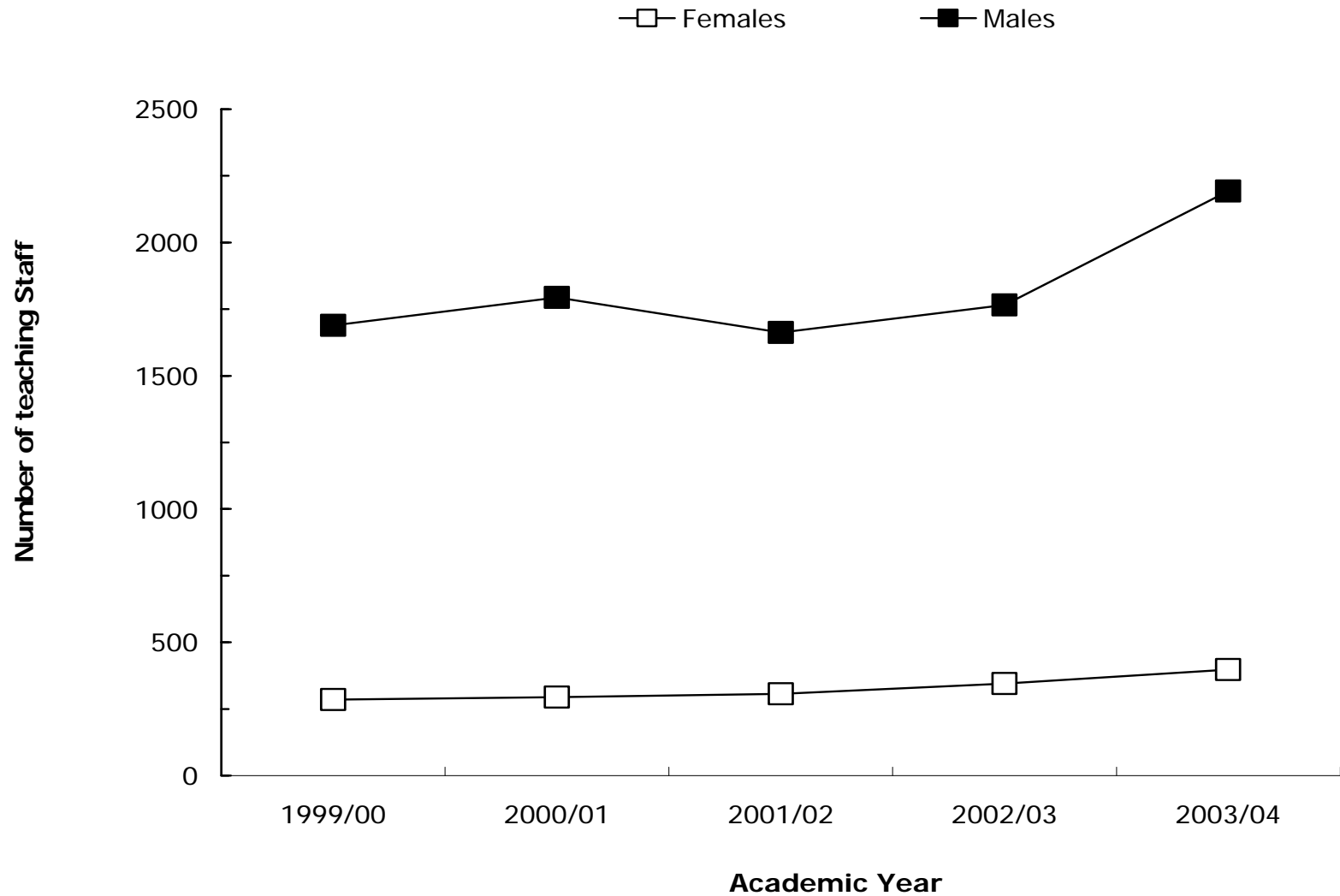
Women Professionals in Universities (all universities combined)

Management Team, Senate and Councilor Members at SUA by Gender in Year 2004
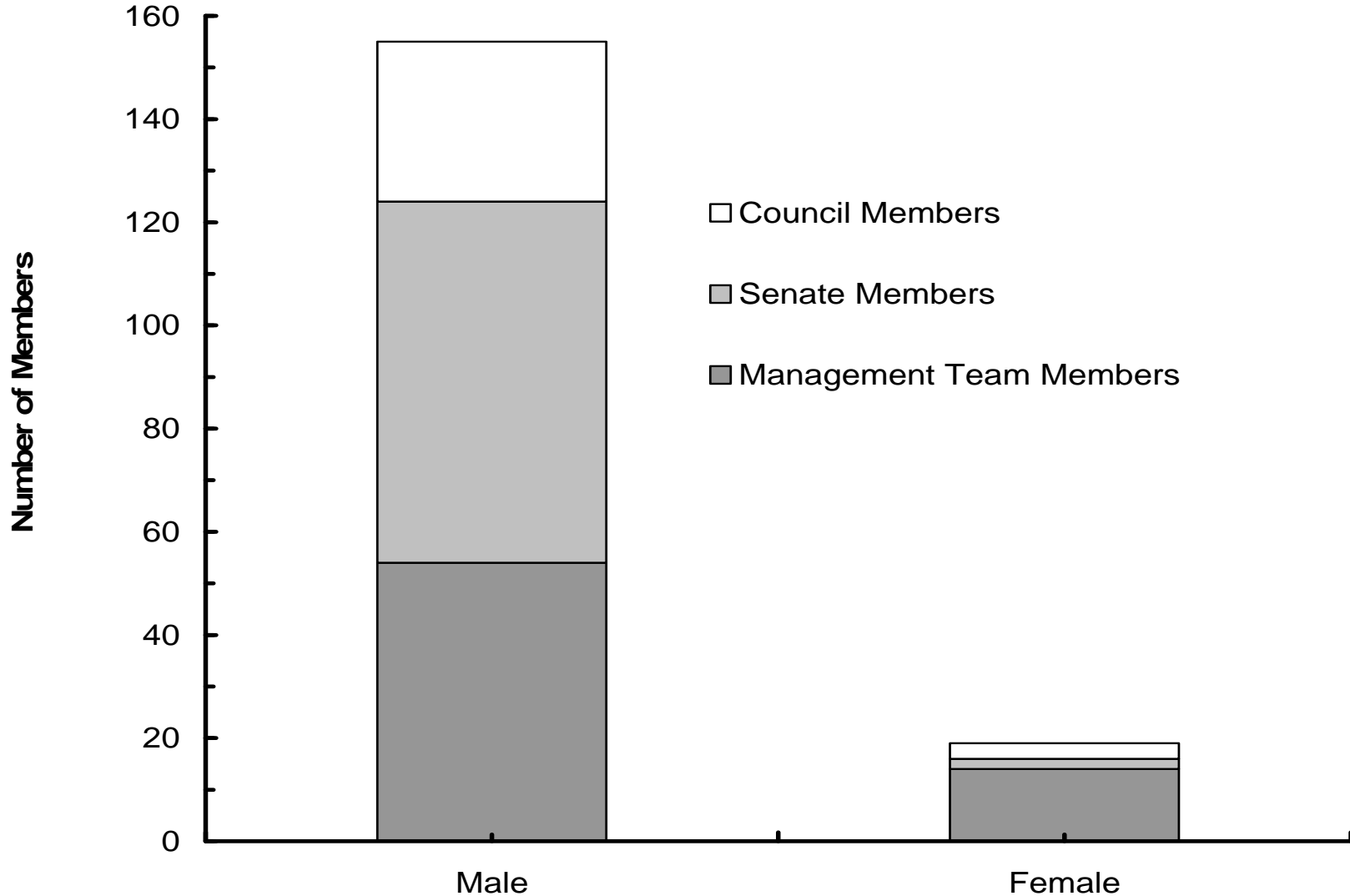
Research Employees in R&D Institutions (N=589)
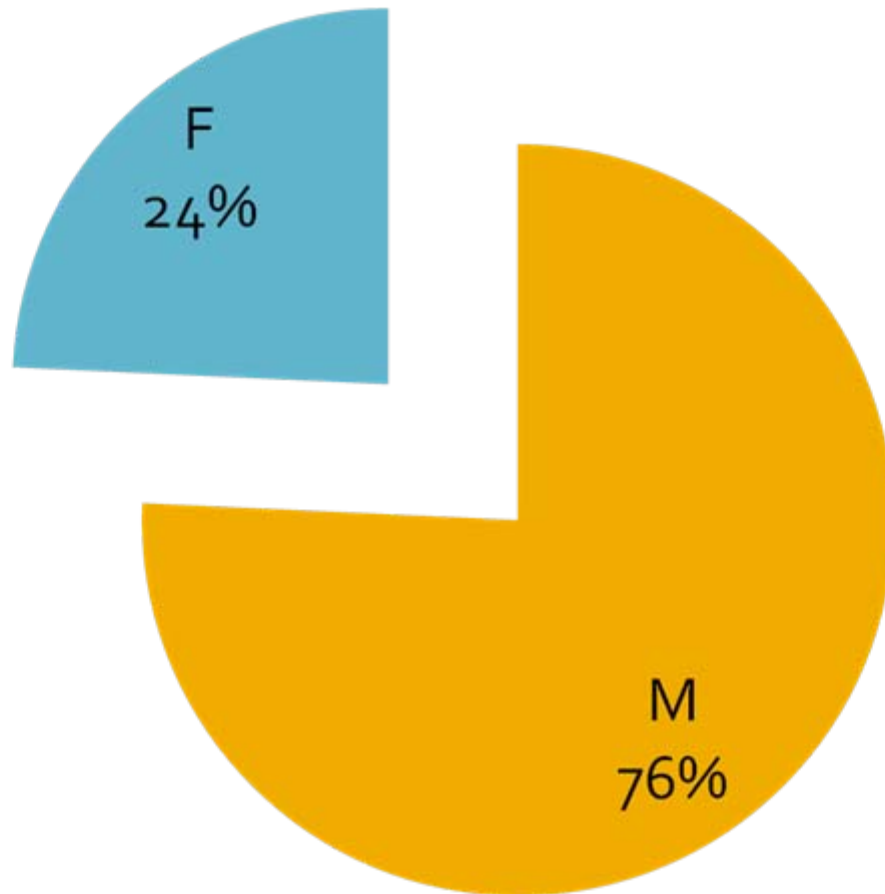
Number of Researchers by Rank in R&D Institutions (N=529)
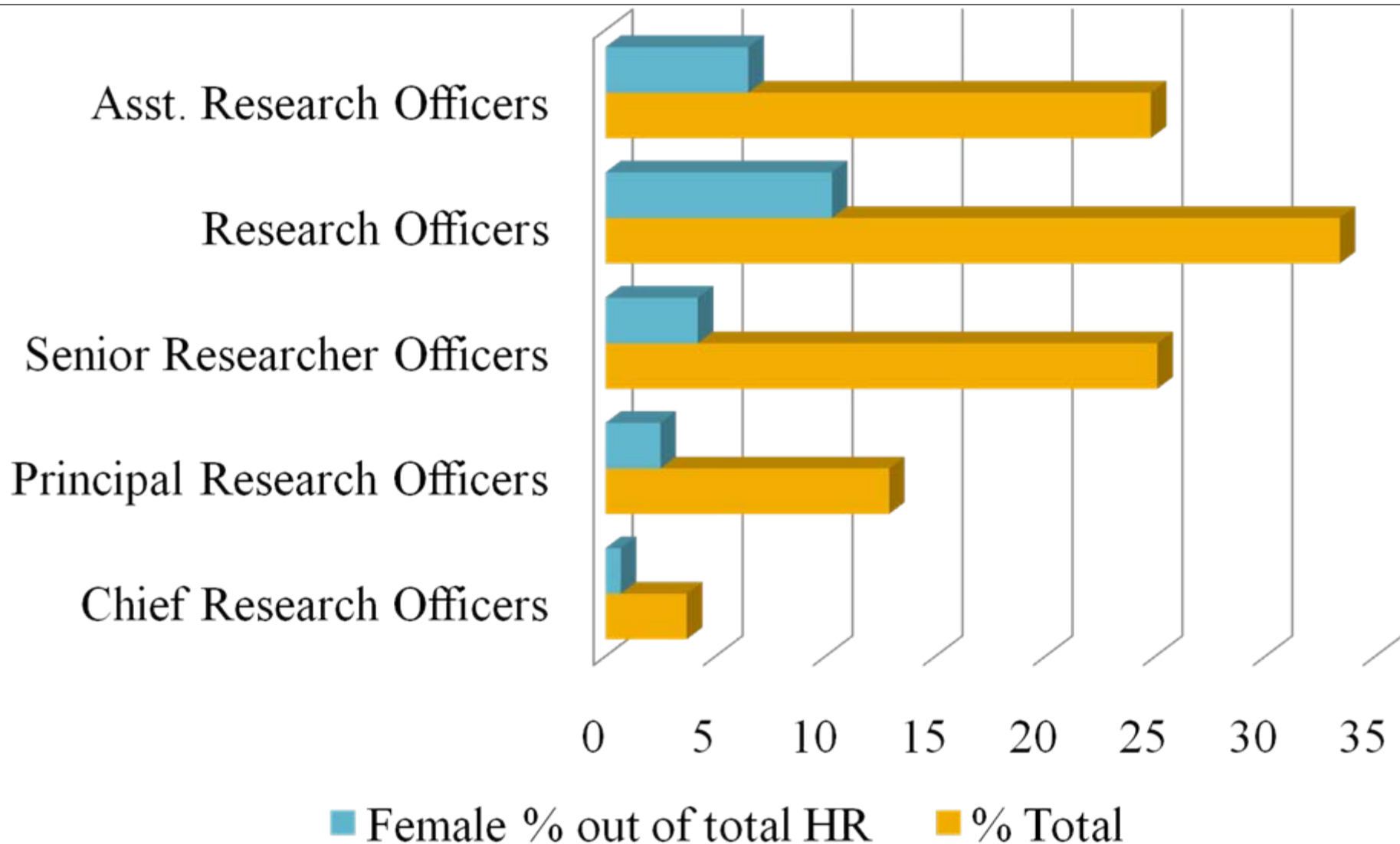
Female out of total (143) female employees in R&D

- Chief Research Officers
- Principal Research Officers
- Senior Researcher Officers
- Research Officers
- Asst. Research Officers

3%

10%

17%

27%

43%
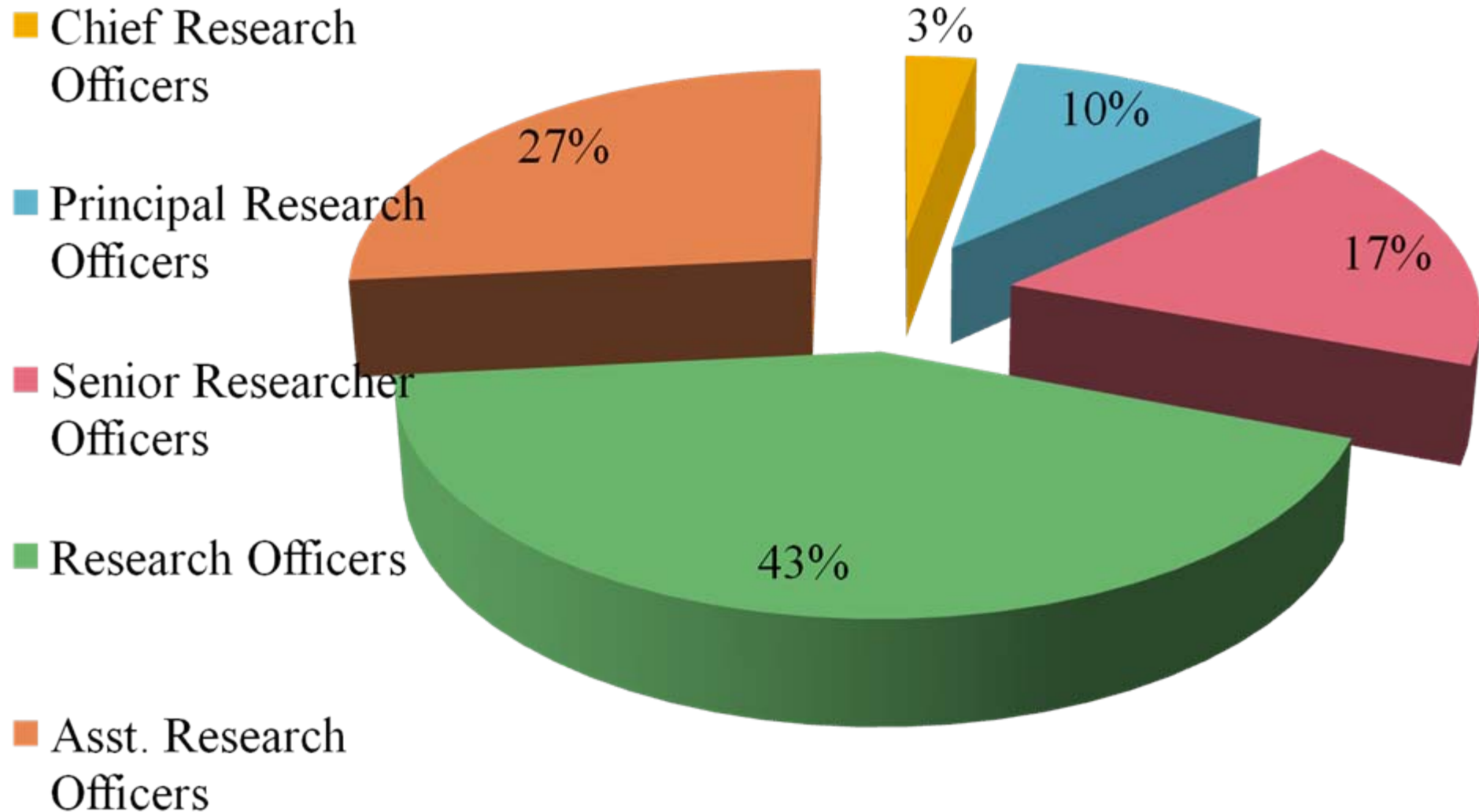
Researchers by Academic Qualification & by Gender (Universities & R&D Instutions)
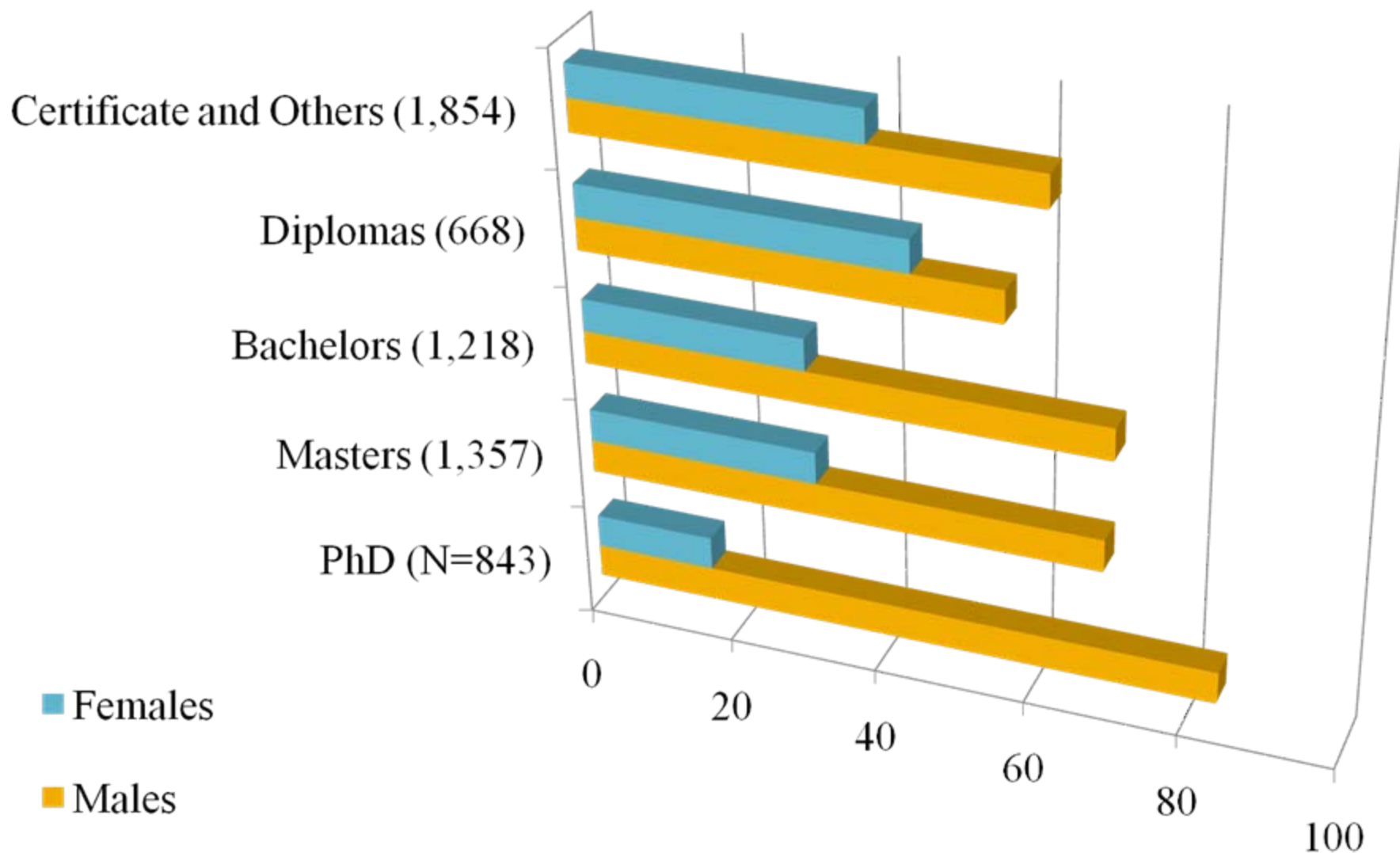
No. of Researchers in Non-Higher Education R&D Inst by Gender, Qualification and Field
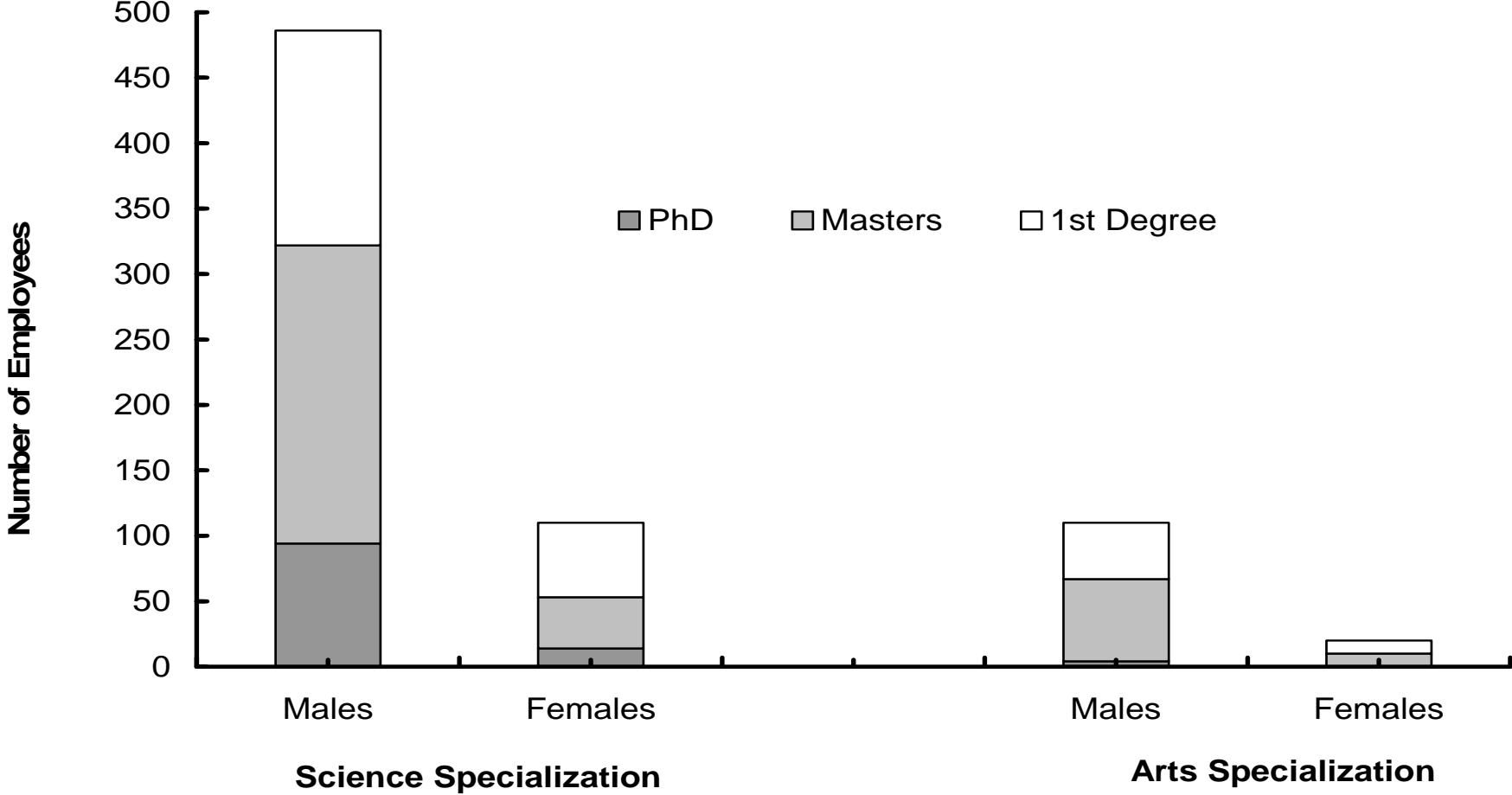
- The situation above is despite that women success rates in HE are just as good as men (Masanja et al. 2003; Mbilinyi 2000)

- Women take 2-10 years longer to be promoted than their male counterparts

Women in Entrepreneurship

❑ Individual women or in-groups and associations are enabled to engage in investment ventures particularly in the informal sector

❑ Challenges
   ❑ how to facilitate women to graduate from the informal sector to the formal sector, particularly in the more productive sectors of the economy
   ❑ to enhance capacities to produce enough with high quality products required by the markets

❑ This calls for more and effective technological empowerment of women

❑ Encouragingly, we currently see more and more movements in Tanzania through both government and civil society avenues aimed at fostering engagement of women in formal sectors

What is Required to Improve the Situation

- ❑ HERI address inequities in hiring and promotion of women academic/ research staff

- ❑ Institute strategies that are family responsive and supportive
  - ❑ maternity policy which takes into account the special role of academic staff

- ❑ Recruitment and staff dev policies responsive to women

- ❑ Improving flexible working arrangements for nursing staff and students as far as possible
  - ▪ Reduce the number of early morning, late evening, and week-end obligations for women
  - ▪ With ICT its possible to perform part of the duties at home

Learning, Research & Innovation

Panel III: Women in higher education, research and innovation (HERI)

Gains and further challenges

UNESCO, Paris, July 7th

Entrepreneur:
Core business in Strategic Innovation & Performance Improvement

Education: University Utrecht, Copenhagen Business School, Erasmus University Rotterdam

Experience: Student association SIFE, Rhotia Valley Tanzania, ProRail
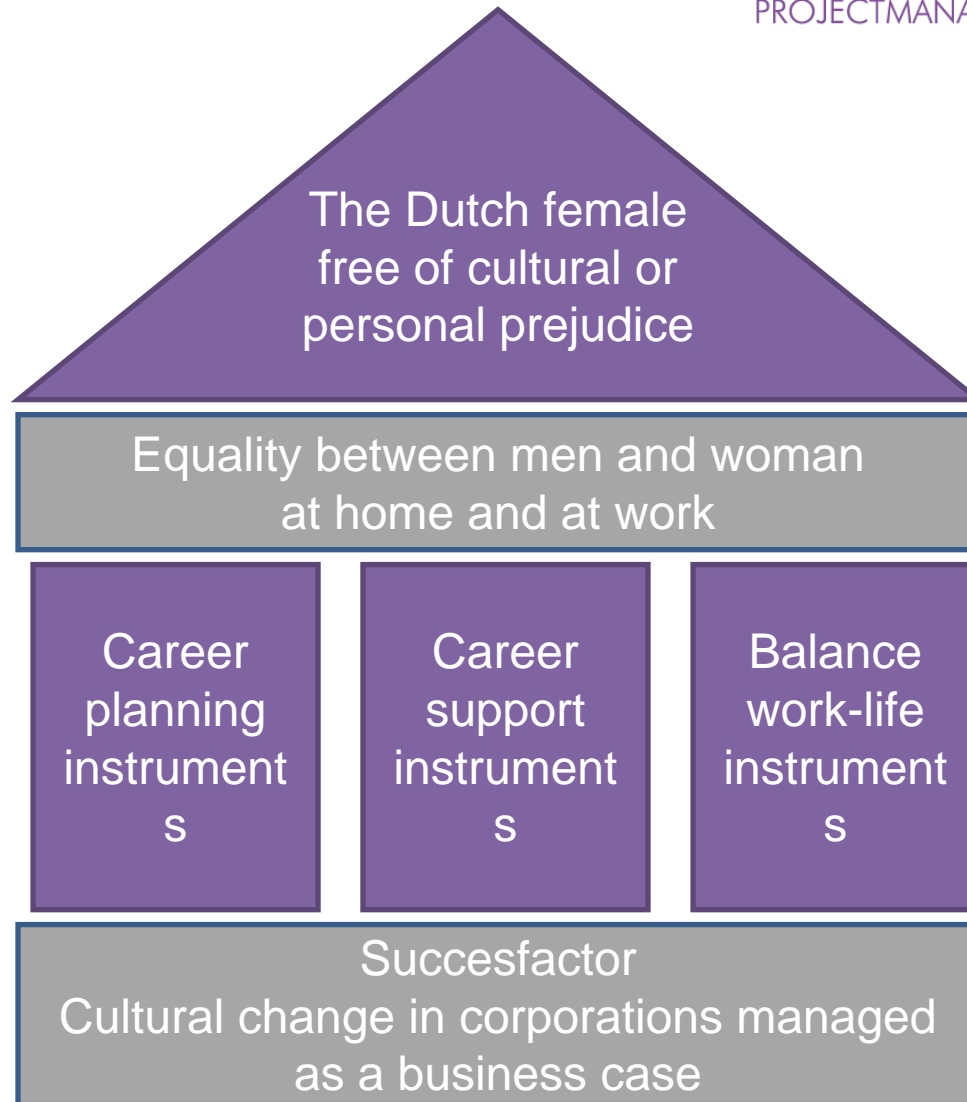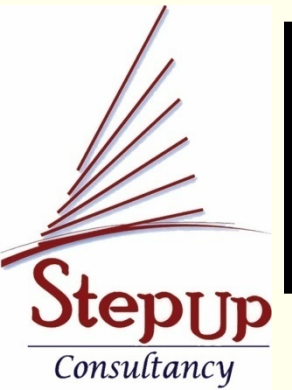
The Netherlands

Total starting entrepreneurs
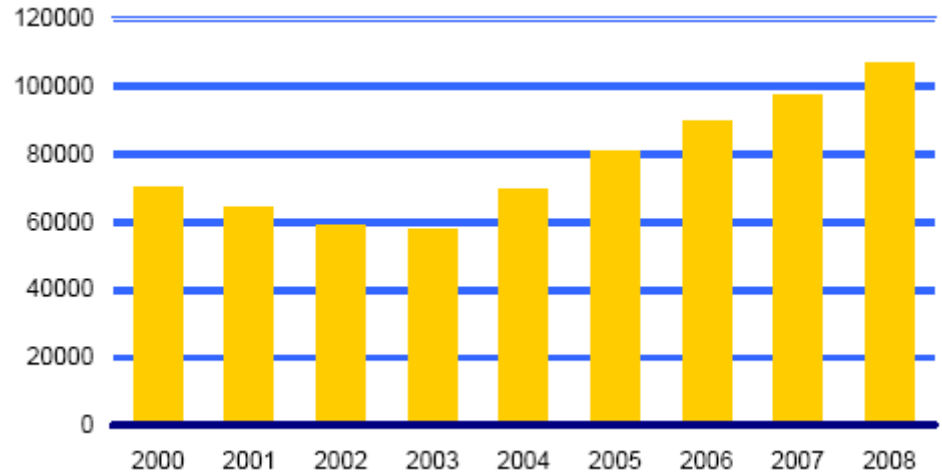
Starting entrepreneurs, Percentage women by age, 2000-2007
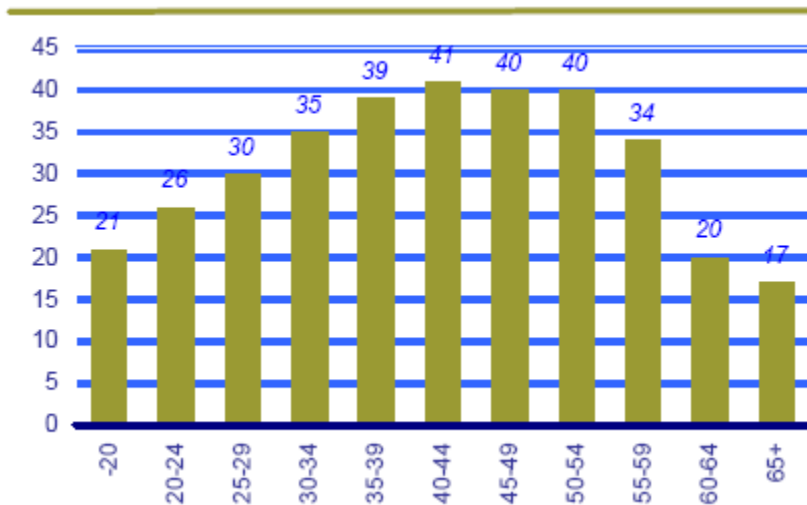
Starting entrepreneurs, percentage women

The Dutch female free of cultural or personal prejudice

Equality between men and woman at home and at work

Career planning instruments

Career support instruments

Balance work-life instruments

Succesfactor
Cultural change in corporations managed as a business case
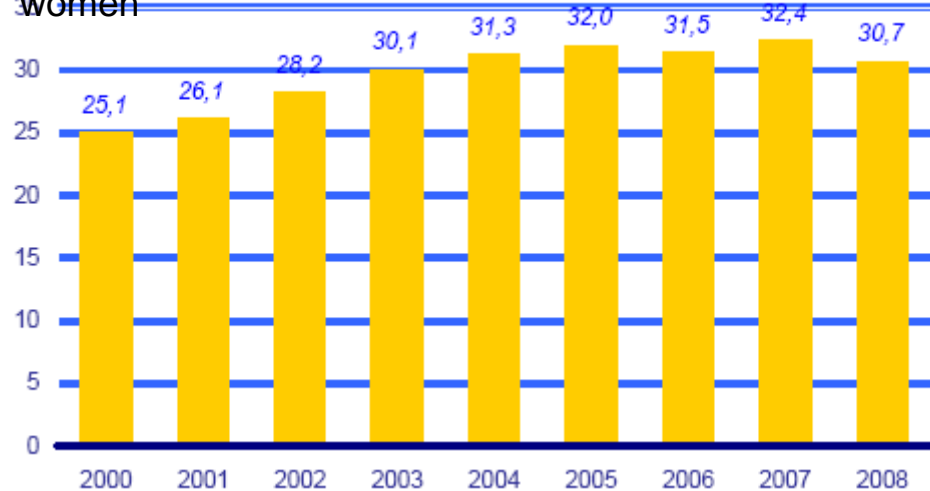
StepUp

Sub- Saharan Africa

Caring Professionalism at Your Service

Step Up – Sub-Saharan Africa -Vision

- Improve the competitiveness of women of Africa.

- We fulfill this mission through caring professionals who are in a unique position to provide responsive solutions to our valued women of Africa.

StepUp Goals and Activities

- Educational Consultancy
- Organizational Consultancy
- Human Resources Training
- International Conferences & Seminars
- Research and Research Support
- Women Student Placement Services
- Women Professionals Placement Services
- Support Centers to International Women Organizations

Educational Consultancy

To Educational Institutions working for educating women of Africa

- Structure
- Governance
- Curricula
- Faculty and student development
- Preparation for International Accreditation
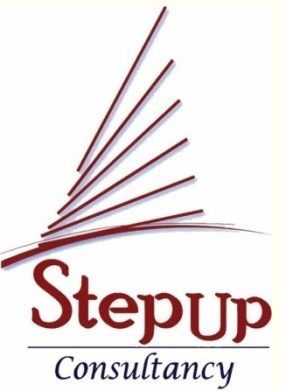
Organizational Consultancy to African Women Businesses

➢ Organizational structuring

➢ Restructuring and development

➢ Performance enhancement

➢ Competitiveness support
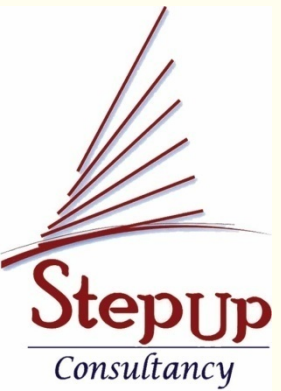
Training and Human Resources Development

➤ Young Women in high school and university

➤ Women Professionals in firms and industries

➤ Basic personal and professional skills

➤ Regional and international competitiveness

➤ Future employability

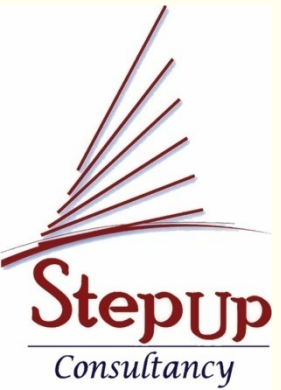➤ Leadership Development Programs (LDPs)
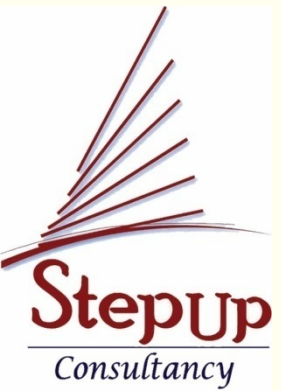
Conferences, Seminars & Events

➢ Organize local, regional and international women conferences, seminars and events
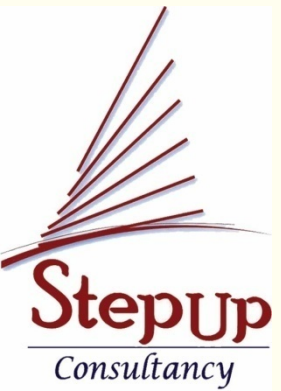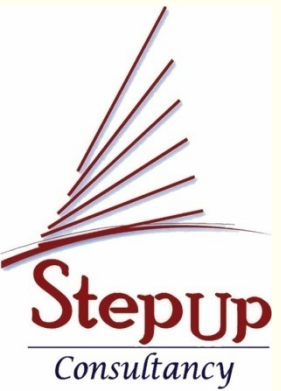
Research & Research Support

- Commissioned research in support of women development
- Support to women researchers: searching materials, editing texts, etc..

Student Placement Services

- Placement in colleges & universities abroad
- Advising on:
  - Application procedure
  - Selection of major
  - Required tests
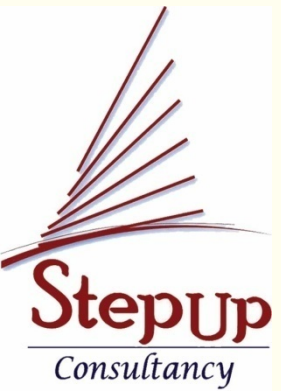- Coordinating with host universities

Professional Placement Services

➤ Link the young women & professionals in the region to job opportunities that fit their qualifications.

Support Centers to International Institutions

> Support services to international women organizations having activities in Sub-Saharan Africa.

Scope of Services

➢ Sub-Saharan Africa

Sub-Saharan Africa

Caring Professionalism at Your Service

Thank You

Higher Education
and Women Today:
The Philippine and Asian Scenario

Rose Marie Salazar-Clemeña, PhD
Professor, Counseling and Educational Psychology
De La Salle University
Manila, Philippines

2009 World Conference on Higher Education. UNESCO, Paris, 5-8 July 2009
Panel III, 7 July: Women in HERI

De La Salle University

Creation Myth

Malakas (strong)   *Maganda* (beautiful)

Man and woman as equals, each coming from one half of the same bamboo

De La Salle University

- **No. 6, Global Gender Gap Index (World Economic Forum, 2007, 2008)**

- **No. 1, percentage of women researchers of any country in the world with a sizeable research community (UNESCO Institute of Statistics, 2003)**

- **among the top six countries in the world with more women researchers than men and among the top 10 countries in numbers of female science graduates (Hafkin, 2008)**

De La Salle University

Statistics: The Philippines

Higher Education Faculty

Disciplines with Higher Percent of Male Faculty

- Engineering and Technology*
- IT-Related Disciplines
- Law and Jurisprudence
- Agriculture, Forestry, Fisheries
- Religion and Theology*
- Architecture and Town Planning*

* disciplines with higher percent of male graduates

Disciplines with Higher Percent of Female Faculty

- Education Science and Teacher Training*
- Medical and Allied Fields*
- Business Administration and Related Fields*
- General
- Humanities*
- Mathematics*
- Social and Behavioral Science*
- Natural Science*
- Mass Communication and Documentation*
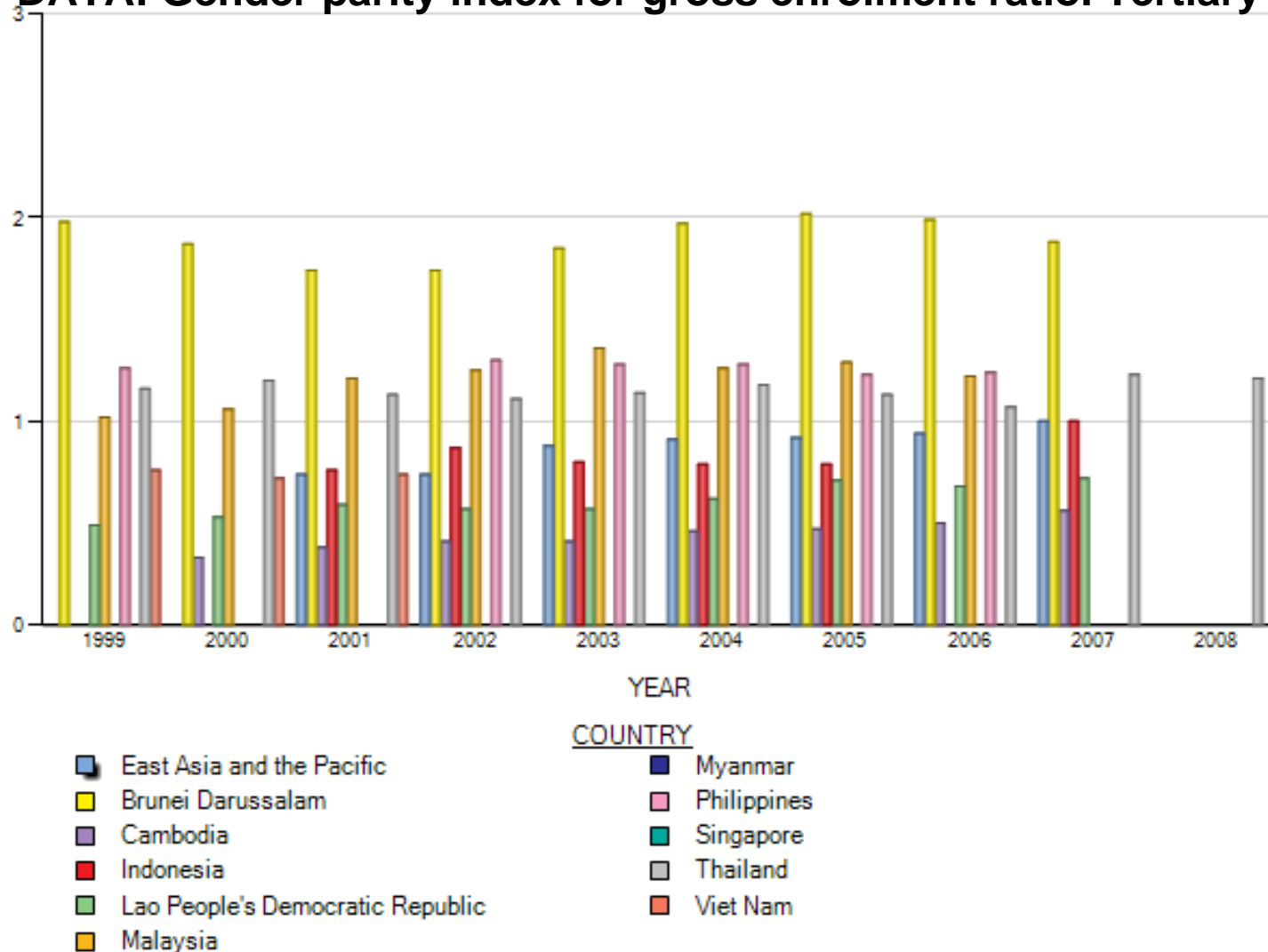- Home Economics*
- Service Trades*

* disciplines with higher percent of female graduates

(Based on data from the Commission on Higher Education, Philippines: Higher Education Faculty by Discipline Group, Highest Level of Credential, Sector and Sex, 04/05

R.M.S. Clemeña
07 July 09 WCHE

De La Salle University

DATA: Gender parity index for gross enrolment ratio. Tertiary

YEAR

COUNTRY

■ East Asia and the Pacific		■ Myanmar	
■ Brunei Darussalam		■ Philippines	
■ Cambodia		■ Singapore	
■ Indonesia		■ Thailand	
■ Lao People's Democratic Republic		■ Viet Nam	
■ Malaysia			

(SOURCE: http://stats.uis.unesco.org/unesco/TableViewer/chartView.aspx)

R.M.S. Clemeña
07 July 09 WCHE

De La Salle University

DATA: Gender parity index for gross completion rate, ISCED 5A, first degree

(SOURCE: http://stats.uis.unesco.org/unesco/TableViewer/chartView.aspx)
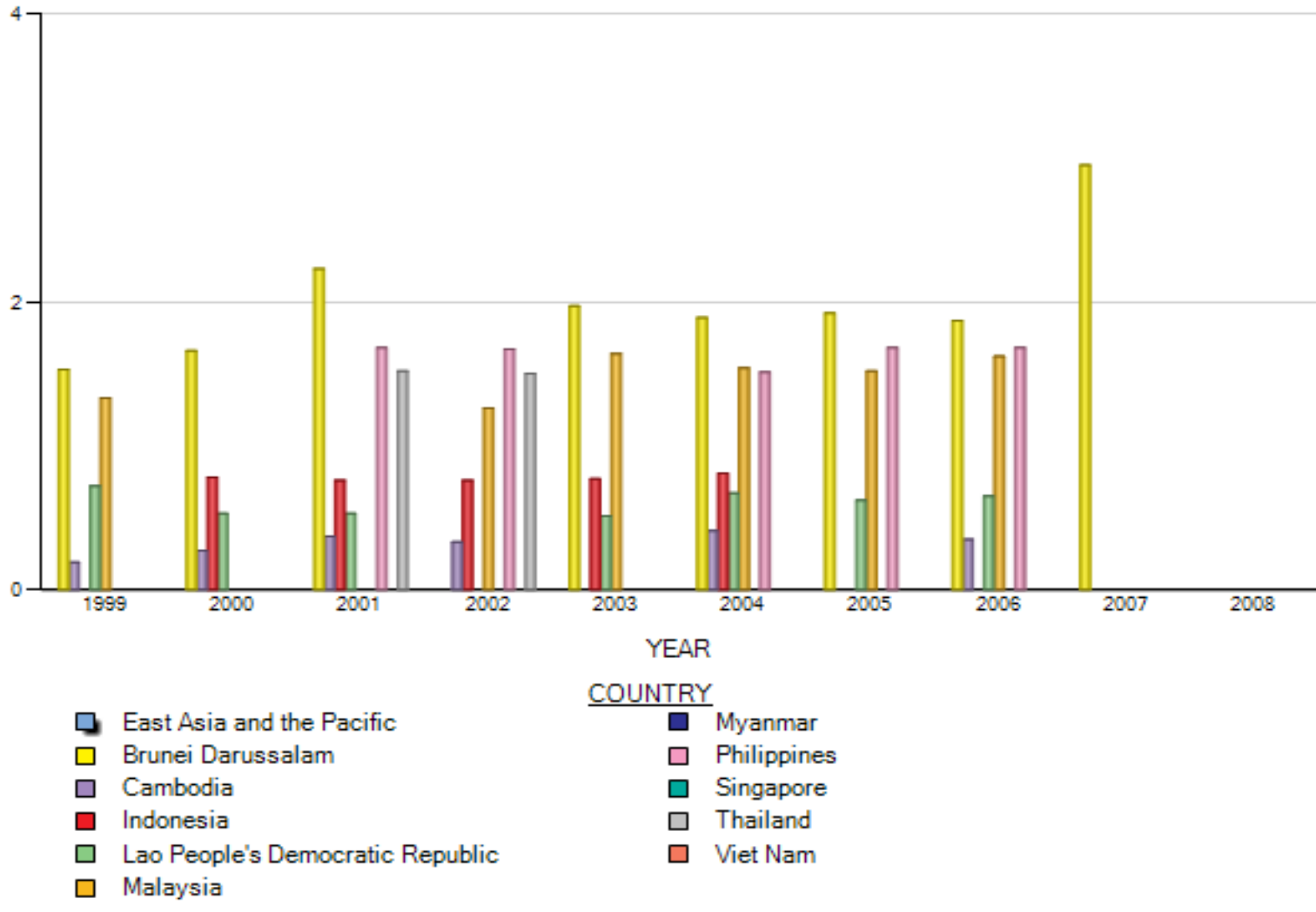
De La Salle University

R.M.S. Clemeña
07 July 09 WCHE

Issues and Challenges

- Continuing discriminatory practices in access to education and career opportunities (e.g., biased admission policies, employment criteria)

- Gender bias in higher education (e.g., curriculum, instructional materials, policies, programs)

- Lack of role models (i.e., women leaders in higher education)

- Viability of single-sex schools

- Unbalanced gender representation in management

- Influence of mass media on career choices of women

- Unfavorable social environments (e.g., patriarchal, feudal; social attitudes toward men as breadwinners or men as preferred workers in jobs that require physical activity)

- Unequal workload/unequal wages

De La Salle University

SOME PROPOSALS

- Policy review, development, and implementation
  - Gender Budgeting
  - Eliminating gender-based discrimination in recruitment, hiring, work assignments, and promotion (i.e., based on merit)
  - Providing funding support for research on gender issues
- Program Development
  - Leadership and career development programs for women
  - Gender-fair education
  - Mentoring for women (preprofessional to postretirement)
  - Gender balance in management
  - Networking (local, national, international)
- Research on:
  - Unique needs of women in HEIs; relation to demographic variables
  - Value orientations of women choosing various disciplines
  - Enabling environmental factors related to women's participation in higher education
  - Psychological/motivational factors affecting the retention of women in traditionally male-dominated fields

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