EURO-MEDITERRANEAN RESEARCH COOPERATION ON GENDER AND SCIENCE

NATIONAL REPORT: EGYPT

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INTRODUCTION

Alexandria University pays attention to dynamic and continual moving landscape beneath the regional scale as a response to and recognition of a rapidly changing global environment which is based on excellence in education, research, and developing leadership skills; where it holds more than 200 bilateral agreements valid with foreign and Arab countries among several faculties and institutes of the University. As an academic institution, Alexandria University considers the intellectual and personal growth of the individual as a central goal. The University’s programs related to the Graduate Studies and Research Affairs and Community Development and Environmental Affairs are designed to achieve the expansion of perception, enrich knowledge, deepen understanding, and create disciplined thought habits of staff members and students. However, gender equality programs and gender mainstreaming activities are new in Alexandria University which started to be in focus by conducting the first gender-based project (SHEMERA) in 2010-2014.

Given that the promotion of women in science is a key issue in the development of a Euro-Mediterranean Research Area, the SHEMERA project aims to support Euro-Mediterranean cooperation in a joint effort to strengthen the role of women in science and indeed in all spheres of life. SHEMERA represents a key contribution to increasing the knowledge base on gender and science issues in the Arab Mediterranean countries, allowing further development of Euro-Mediterranean research cooperation in this field. The project focused on three key themes: statistics on women in science, gender equality policies, and research on gender inequalities in science careers. Well-known researchers from universities and research institutes cooperated to increase knowledge on gender issues in the area, to empower women in science, to enhance networking and to steer policy-making on gender and science in the years to come. In Egypt, SHEMERA was considered to be one of the systematic measures to understand the position of women in science and gender bias in research content. In the mid-to-long term perspective, it is expected to contribute to the process of transformation aiming to promote a better integration of the gender dimension in science, research and technology in Egypt.

The issue of challenges for research on gender and science concerns all women in different countries. Convinced of the necessity of women and science, the objectives and outcomes of SHEMERA highlighted the main challenges facing us, taking into consideration that the scientific methods are the best way to face problems. Nevertheless, policies towards gender equality in research must be a key target. Strategic partnerships are an important element while working on gender equality as well as the dialogue with governmental partners. Without doubt policies must be on the basis of international legal and political obligations like the CEDAW, the Beijing platform for action and Millennium Development Goals.

1. STATISTICS ON WOMEN IN SCIENCE

Methodological and data issues

Main data sources:
- Government entities:
  • Central Agency for Public Mobilization and Statistics (CAPMAS)
  • Supreme Council of Universities (SCU)
  • Academy of Scientific Research (ASR)
  • Ministry Of Higher Education (MOHE)
  • Science and Technology Development Fund (STDF)
  • Information and Communication Technology Project (ICTP)
- Non-governmental organization:
  • Misr El-Khair (MEK)

As all data have been collected from official government entities or from MEK, the statistical expert judges that the data are accurate and reliable.
When data for Egypt are missing this is because there are no data related to research in the private sector or because national data cannot be made conform to international classifications such as ISCED '97, NACE or ISCO '88.

Interpolation and extrapolation processes are used to estimate 2004 and/or 2010 data whenever these years were not available the closest possible year with available data was used.

The main gaps in the Egyptian data concern researchers in the business enterprise sector (for 2004) and the private non-profit sector. Data on researchers are available only for the higher education sector and the government sector - although in this latter sector the number of researchers cannot be broken down by major fields of science.

Moreover, in the absence of an R&D survey, the category of researchers cannot be analysed in detail by distinguishing researchers from technicians and others. Moreover, we have no precise information on R&D expenditure.

General data on applicants for and beneficiaries of research funding are available by sex. However, once these data are disaggregated by field of science, only the total remains available.

As regards the student population, the data allow for a detailed analysis of the gender composition of the population of PhD students and graduates.

As regards academic personnel, although 2010 data exist for grades A, C and D there is no general information on grade B. Data on the number of women and men at grade B exist for the subfields of engineering and technology and the natural sciences but not for all science fields taken together. The number of women and men at grade A cannot be broken down by age group.

In the absence of a survey on wages, we have no raw data to estimate the gender wage gap in science or research.

Female underrepresentation in decision-making in science and research can be studied through three indicators: the share of female heads of higher education institutions, the share of female heads of universities and the proportion of women on scientific and research boards.

**Introduction**

According to the national expert, Egypt is a high-employment country, particularly for men: in 2010, the male employment rate stood at 97%. The female employment rate is also high although there is a large gender gap: in 2010, 77% of women aged 15 to 64 were at work. The employment rates reported by the national expert contrast sharply with the World Development Indicators published by the World Bank according to which in 2012 the male employment rate, not for the population aged 25-64 but for the larger population of people aged 15+, stood at 69.4% compared with a much lower female rate of just 17.2%.

In 2010, the gender pay gap stood at 19.6% in Egypt (compared with 18% in 2004) (CAPMAS).

Egypt has 217 universities or other higher education institutions. These are classified as shown by Table 1. Most students are in governmental universities, followed by higher private institutes. The three biggest governmental universities are Cairo University, Alexandria University and Ain Shams University.
Table 1: HES institutions in Egypt, by type, 2010

<table>
<thead>
<tr>
<th>Type</th>
<th>#</th>
<th># of students</th>
<th>Share of all HES students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governmental universities</td>
<td>19</td>
<td>1759632</td>
<td>74%</td>
</tr>
<tr>
<td>Private universities</td>
<td>18</td>
<td>70309</td>
<td>3%</td>
</tr>
<tr>
<td>Governmental technical institutes</td>
<td>66</td>
<td>127380</td>
<td>5%</td>
</tr>
<tr>
<td>Higher private institutes</td>
<td>100</td>
<td>372046</td>
<td>16%</td>
</tr>
<tr>
<td>Private technical institutes</td>
<td>14</td>
<td>63646</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: National expert

0.5% of Gross Domestic Product was spent on R&D in 2010.

The presence of women in science

Women form a minority among people who have successfully completed tertiary education in a Science & Technology (S&T) field of study and who are also occupied in such a field. These fields are natural sciences, engineering and technology, medical sciences, agricultural sciences, social sciences, humanities, and others. In 2004, women represented 36% of this population and 39% in 2010.

The population of researchers (in governmental universities and research institutes) in Egypt also remains male-dominated. In 2004, the share of women among researchers aged 25-64 stood at 41%. By 2010, it dropped to 39%. The situation was somewhat more equal in the government sector than in higher education as the respective shares of female researchers stood at 47% and 39% in 2010. In the business enterprise sector just 13% of all researchers were women in 2010.

Graph 1 shows that almost half of all female researchers in higher education are under 35 years of age and a quarter are between 35 and 44 years of age. Just 28% of female researchers compared with 49% of male researchers are older than 45. The female research population in higher education is thus noticeably younger than the male research population. This is not observed for the government sector where the distributions of female and male researchers across age groups are very similar. This difference should, at least partly, be attributed to the fact that over the last decade the annual recruitment ratio has been higher in higher education than in the government sector so that the generation effect appears more clearly in higher education and less clearly in the government sector.

Graph 1: Distribution of researchers in the Higher Education Sector (HES) and the Government sector (GOV) by sex and age groups, 2010

Source: National expert
**Scientific fields or horizontal segregation**

In Egypt, 42% of PhD graduates were women in 2004 and this share is exactly the same in 2010. There is thus no move towards greater gender equality at the PhD level in Egypt.

These women were distributed across the different fields of science as shown by graph 2. Women form an absolute majority of PhD graduates in humanities and arts (79% of women) but a minority in all other fields of science. In health and welfare, 46% of all PhD graduates were women in 2010. Their share was around 40% in education and agriculture and veterinary. In the social sciences, business and law, women represented 36% of all PhD graduates. Finally, just 30% were women in science, mathematics and computing and engineering, manufacturing and construction.

![Graph 2: Proportion of female PhD graduates in the different fields of science, 2010](image)

When we look at how the population of researchers (aged 25-64) is distributed across fields of science in the higher education sector (graph 3), we see that large shares of researchers in Egypt are in the medical sciences: 44% of female and 33% of male researchers. The social sciences also attract large shares of researchers: 23% of women and 17% of men. Whereas in the humanities the shares of female and male researchers are roughly identical (11-12%), a significant gender imbalance characterizes the research population in agriculture, the natural sciences and engineering and technology. In these fields, the share of male researchers is approximately twice as large as the share of female researchers.

![Graph 3: Distribution of researchers in the Higher Education Sector (HES) across fields of science, 2010](image)
To conclude, in Egypt, the dissimilarity index in the higher education sector stood at 0.18 in 2010 pointing towards a sizable imbalance in the distribution of female and male researchers across fields of science.

**Seniority or vertical segregation**

The scissors diagram in graph 4 represents the situation in governmental universities only. It shows that in 2010, there are just as many female as male students at the ISCED 5A level. Women are more successful than men as they represent 55% of graduates at this level. At the PhD (ISCED 6) level, although women are less numerous to enroll (they represent just 42% of PhD students) they are just as likely to successfully finish their PhD (49% of PhD graduates are women). In Egypt, at the take-off of an academic career, at grade D or the lowest hierarchical rank of the academic track, there are just 42% of women but they quickly overtake men as at the next level, that of grade C, in 2010 they represented 58%. At the highest level of the academic career, however, women remain a minority as just 35% of grade A staff were women in 2010. The glass ceiling thus seems to be located just before arriving at the highest level, grade A. Still, compared with many European countries and other Euro-Mediterranean Partner countries, a share of 35% of women at grade A is rather impressive.

A comparison between 2004 and 2010 shows that there is no evolution in the gender composition of the different levels of the scissors diagram. The situation has been completely stable between 2004 and 2010.

**Graph 4: Proportions of men and women in a typical academic career, students and academic staff, 2004/2010**

The scissors diagram in the specific field of science and engineering, as depicted by graph 5, was constructed using, on the one hand, data on total numbers of ISCED 5A students and graduates by sex (no such data exist for PhD students and graduates) and, on the other hand, data concerning academic personnel by sex and grade for governmental universities only. The diagram looks very different in the specific field of science and engineering than in general for all scientific fields taken together. Up until grade C, the proportion of women remains very close to 40%, then at grade B there is a substantial narrowing of the gender gap as at this grade the share of women increases to 48%. However, it falls back steeply to 32% among grade A academics. At this highest level, the gender imbalance in science and engineering is thus only slightly larger than in all scientific fields taken together: women represent 32% of grade A staff in science and engineering and 35% of grade A staff in all scientific fields together.

A comparison between 2004 and 2010 shows that the proportion of women has increased at all levels except for grade C. The increase has been most substantial at grades D and especially B where the situation has come close to equality.
Female grade A academic staff in Egypt are best represented in the medical sciences and the social sciences where 54% of all grade A academics are women. Half of all grade A academics are women in the humanities. The other scientific fields are characterised by a deep gender imbalance as less than one third of all grade A staff are women in the natural sciences, engineering and technology and the agricultural sciences. Despite the fact that the gender gap in engineering and technology remains wide, it is smaller in Egypt than in many European and Euro-Mediterranean Partner countries.

In Egypt, the bulk of both male and female grade A staff are in the humanities. This can be explained by the fact that there is a certain degree of proportionality between the number of staff and the number of students but also by the fact that in a general context of limited government financial resources for higher education, the humanities score relatively well as the cost of higher education in the humanities is much lower than in other fields.
Access to decision-making in science

Of the 19 governmental universities in Egypt, just two have a female head: Alexandria University and Tanta University. In 2010, just 11% of the 382 members of the highest boards of these 19 universities were women.

To study the gender dimension to research funding, we looked at the number of applicants and beneficiaries of research funds granted by the Science and Technology Development Fund (STDF) and the Information and Communication Technology Project (ICTP). In 2010, the share of men who successfully applied for and obtained research funding was 2.3 percentage points higher than the share of women who successfully obtained funding for their research: of all female applicants for research funding 25.6% successfully obtained the funds they asked for whereas for men this proportion stood at 27.9% in 2010.

2. GENDER EQUALITY POLICIES

2.1 POLICY CONTEXT

Legislative framework

The 1971 Egyptian Constitution guaranteed equality between men and women in regard to civil and political rights and outlawed discrimination on the basis of gender in articles 2, 8, 9, 10, 11, and 40. The new constitution, approved in 2014, expands these principles. Article 11 states: “The state commits to achieving equality between women and men in all civil, political, economic, social, and cultural rights in accordance with the provisions of this Constitution. The state commits to taking the necessary measures to ensure appropriate representation of women in the houses of parliament, in the manner specified by law. It grants women the right to hold public posts and high management posts in the state, and to appointment in judicial bodies and entities without discrimination. The state commits to the protection of women against all forms of violence, and ensures women empowerment to reconcile the duties of a woman toward her family and her work requirements. The state ensures care and protection and care for motherhood and childhood, and for women heads of household, and elderly women, and women most in need.”

Both constitutions identify Islamic Shari’a as the principal source of law.
Egypt ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1981 and maintains reservations to articles 2 (policy measures) 16 (equality in marriage and family life), as well as 29 (2) (related to the administration of the convention; arbitration in the event of a dispute). In 2008 Egypt decided to withdraw reservation to article 9.2 (equal rights of women and men with respect to the nationality of their children).

The reservation to CEDAW article 16 (equality in marriage and family life) is maintained based on the provisions of Islamic Shari’a, under which husband and wife have different rights and duties. According to the Egypt’s sixth and seventh combined report to CEDAW 1 “Egypt has a reservation to article 16 of the Convention, inasmuch as the rights and duties of both the husband and wife in Egypt, while not identical, are equal. Moreover, implementing equality in the way stated in several paragraphs of article 16 would diminish the rights women currently enjoy”. The reservation to article 2 (policy measures) is a general one, indicating that Egypt is willing to comply with the article as long as it does not conflict with Shari’a.

The CEDAW Committee 2 has indicated that “reservations to articles 2 and 16 are contrary to the object and purpose of the Convention”. The Committee is also concerned at the persistence of discriminatory laws and provisions, including in the Penal Code and the personal status law, that deny women equal rights with men, in spite of constitutional guarantees on gender equality and the efforts made to review discriminatory legislation.

Institutions and policies

The National Council for Women (NCW) is the main government organisation responsible for women’s affairs. It was established with presidential decree Number 90 of year 2000. The mandate of the NCW is:

- To propose public policy matters for society and its constitutional institutions on development and empowerment of women.
- To draft a National Plan for the advancement of women and to solve their problems
- To monitor and evaluate the general policies related to women and formulate its recommendations to the concerned parties.
- To advise on the draft laws and decrees related to women before submission to the competent authorities.
- To recommend the adoption of proposed laws and decrees which contribute to reinforcing the enhancement of women’s status.
- To represent women in international fora and organizations dealing with women's issues.

In 2002, the NCW drafted a plan to mainstream gender into the five-year National Development Plan (2002-2007), subsequently approved by the People’s Assembly and the Shura Council. The NCW proposed the creation of Equal Opportunity Units in 30 Ministries. In addition, the NCW assists in establishing other mechanisms to achieve social justice and gender equality. These mechanisms are:

- Women’s and Equal Opportunity Committee in the Parliament
- Ombudsman’s Office for Gender Equality, which serves as a link between the NCW and Egyptian women who have been subject to any form of discrimination in public life or in personal status affairs.

The NCW has developed a strategic framework aimed at achieving the third Millennium Development Goal, on gender equality, by 2015.

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1 Committee on the Elimination of Discrimination against Women Forty-fifth session, 18 January – 5 February 2010 (CEDAW/C/EGY/CO/7)
2 Committee on the Elimination of Discrimination against Women Forty-fifth session, 18 January – 5 February 2010 (CEDAW/C/EGY/CO/7)
2.2 GENDER EQUALITY POLICIES IN SCIENCE

Structures for gender equality in science

There is a Gender and Equal Opportunity Unit in the Ministry of Higher Education, as well as in all ministries. The objectives of all gender equality units are as follows:

- To integrate the perspective of women and equal opportunities in the ministerial plans and programs
- To support monitoring and evaluating the progress made in achieving equal opportunities in programs of each ministry.
- To train ministry staff on the integration of women and equal opportunities in programs and projects
- To cooperate with the Office of the Ombudsman to discuss and resolve complaints of discrimination against women.

Statistics and indicators

The Central Agency for Public Mobilization and Statistics (CAPMAS) periodically publishes a statistical profile on the “Status of Men and Women in Egypt” including education and employment data. The Strategic Planning Unit and the Supreme Council of Universities, both at the Ministry of Higher Education, periodically publish sex-disaggregated statistics on Higher Education in Egypt; including data on undergraduate and postgraduate students as well as faculty staff members.

The NCW in cooperation with CAPMAS is involved in the GEMS project (Gender Equality Measured through Disaggregated Statistics). This project promotes the use of sex-disaggregated statistics to measure gender equality. It aims to support the efforts undertaken to narrow gender gaps by providing detailed and accurate information on the areas where these gaps exist and on their real dimensions in order to provide sound evidence-based information to policy-makers.

Sex-disaggregated statistics in the field of science are very incomplete. There is no R&D survey in the country.

Gender balance measures

There is no specific regulation aimed at fostering a gender balance on public committees. There is no official engagement on gender balance in scientific decision-making bodies or committees. There is no measure in place to implement quotas or targets in universities or research institutions.

Equality plans and related gender equality measures

Universities and research institutions are not required to set up gender equality plans or related gender equality measures, such as gender units or gender observatories. These measures are completely absent in Egypt to the best of our knowledge.

Mentoring

Mentoring is not an institutionalised practice as regards junior scientists of either sex. However, there are a few mentoring programmes addressed to women linked to international initiatives.

At the American University in Cairo, the Cynthia Nelson Institute for Gender and Women’s Studies (IGWS) has in place a mentoring programme. About 20% of graduate students pursue PhD whilst 80% seek employment in NGOs and UN.

Recently, the “Female mentoring project” was launched at Cairo University. It is a joint project between the Centre for the Study of Developing Countries (CSDC) at the Faculty of Economics and Political Sciences, Cairo University, the Association for Women’s Total Advancement and
Development (AWTAD) and the regional programme “Economic Integration of Women – MENA” (EconoWin). EconoWin is supported by the “Deutsche Gesellschaft für Internationale Zusammenarbeit” (GIZ) GmbH and commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). The mentoring project is executed as part of the Ana Hunna initiative.

**Funding**

Funding allocation in research is based on a merit-based approach without any gender-related criteria for enhancing equal access to funding. There are no special funds or prizes for women.

**Work and family balance**

In Egypt, maternity leave is 3 months after childbirth with full pay. Women on maternity leave cannot be suspended. Women are entitled to benefit from this leave three times during their time of service to the employer. In addition, there is a breastfeeding leave for 2 years after childbirth (two periods of rest daily, for at least 30 minutes each, which can be combined in one single break). Other provisions address the right of pregnant women to reduce working hours; and the right to benefit from the services of a nursery when some conditions are fulfilled.

In the public sector, women working in a facility that employs more than 50 people have the right to take leave without pay to care for their child, for up to 2 years. Women may take such leave twice during their time of service to the employer.

There is no paternity leave in Egypt.

There is no special scheme for scientists and researchers. Specific resources for supporting returnees after career breaks in science are absent.

**Women’s and gender studies**

Women’s and gender studies are not taught at governmental universities.

The American University in Cairo hosts the Cynthia Nelson Institute for Gender and Women’s Studies (IGWS). It is an academic research institute and a graduate teaching centre for scholars, researchers and graduate students interested in gender issues in the Middle East, Africa and South Asia. The research institute serves as a resources nexus through which research projects, conferences, workshops, policy debates and educational programs on gender issues are engaged. The graduate centre provides students with an interdisciplinary and transnational perspective in gender and women’s studies with a special emphasis on the Middle East and North African region.

**Networking**

Egypt has an active women’s rights movement, although not in the field of science.
3. RECOMMENDATIONS

This section summarizes the policy recommendations for SHEMERA project in Egypt; including the main recommendations taken throughout the proceedings of the national workshop held at Alexandria University, Egypt on 22nd January 2014, as well as the other recommendations taken throughout the SHEMERA project’s different events, networking activities, focus group discussions with different key stakeholders and policy makers and task force meetings.

1) The necessity of a roadmap which supports the objectives of gender equality in different science fields. It should be built on the Framework Strategy for equality between women and men.

2) The provision of guidelines to improve gender equality mainstreaming in education and science and to reinforce the role of women in the science, both at the academic and non-academic levels.

3) Greater attention now paid to promoting institutional changes and their impact on gender equality. There is a need to have common changes in the evaluation framework for addressing the challenges for gender policy in science; for example:
   (a) Promoting gender-diversity oriented teaching and learning
      - Higher education institutions could target girls’ friendly context.
      - Universities can implement a number of activities such as e-learning and training sessions to advance young female academics’ skills.
      - More flexible university study programs and more support for female students from poor families.
      - Encouraging female students in applied fields of science through support grants.
      - Promoting flexible work/balance options to support women’s educational opportunities and careers, especially for female postgraduates to be interpreted into the higher academic hierarchy.
   (b) Integrative gendering and diversity in research
      - Gender – diversity budgeting in research projects
      - Gender– diversity in research teams
      - Consider gender and intersectional research in research reports
      - Consider the gender – diversity dimension in research content

4) Understanding the context in which women pursue their careers in higher education. This will actually call for a more organized action taken for data to be collected from women in higher education positions; for example: setting up a ‘surveillance system’ with specific indicators. This concept can be used to watch how organizations are progressing to become what is called ‘women friendly organizations’ that take into consideration the dual role of women as mothers and scientists.

5) Polices that help advance women’s careers includes; flexible working environment, maternity, work balance and career-break polices.

6) Encouraging young undergraduate females to pursue their career in science fields and/or proceed to post graduate studies. For example; universities should adopt mentoring programs focusing on successful women (role models) who are involved in different scientific careers, such as the L’OREAL Award winners for Women in Science.

7) At the school level, scientific culture should be integrated and disseminated in school curricula particularly for secondary schools. Moreover, teachers play a key role in encouraging female students to access different scientific studies as well as in addressing role models of women in the communities.

8) Coordinating with pre-university gender policies per type of education (general, vocational and technical).

9) The role of science clubs in cultural palaces and youth clubs distributed in all governorates to advocate interesting science-related activities and information targeted to young girls.
10) The role of “Scientific Press” was promoted by representatives from the State Information Service and Media. All forms of media (TV, daily newspapers) could deliver friendly-science messages to females in a step to enhance the scientific culture.
This report aims to highlight some of the findings on gender imbalance in scientific careers in academic and non-academic sectors in Egypt that have evolved from a joint research project undertaken by Alexandria University in collaboration with other Arab and European institutions within the SHEMERA project. The overall objective of the SHEMERA project is enhancing research cooperation on gender and science between the European Union and the Arab Mediterranean countries: Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, Syria and Tunisia. Research cooperation is intended to improve the understanding of the roots of gender inequality in science in the area, by taking into account cultural diversities and traditions, and analysing how the Arab Mediterranean countries are addressing this specific issue.

The research project aimed to collect national data in the Arab Mediterranean countries to form the basis for a comparative analysis of the current situation of gender equality in science in order to benchmark future development in this field and guide researchers, policy makers and other strategic players in identifying and addressing the key problem areas.

This report focuses on two key domains to map the situation of women in science in Egypt:

- The compilation of sex-disaggregated statistics covering women’s and men’s distribution across scientific fields and careers, their seniority and participation in decision-making in science;
- The description of gender equality policies, legislations, national strategies and positive actions for women including equal opportunities legislation – with a special focus on gender equality policies and initiatives in the field of science.

There is an imbalance in the representation, seniority and participation of women and men in scientific fields and professions worldwide. The roots of this gender imbalance are deeply embedded in each society, profession and institution. Gender imbalance is not a self-correcting phenomenon and only concrete measures targeting specific aspects of its manifestations can lead to significant change in this area. The final section of this report provides a set of national recommendations to strengthen the position of women in science and promote gender equality in this field.