EURO-MEDITERRANEAN RESEARCH COOPERATION ON GENDER AND SCIENCE

NATIONAL REPORT: TUNISIA

University of Carthage

Sihem Jaziri
Sonia Mallak
Souad Lahmar
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SHEMERA CONSORTIUM

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Université de Carthage
Tunisia
http://www.ucar.rnu.tn

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INTRODUCTION

This report aims to highlight some of the findings on gender imbalance in gaining access to careers within both academic and professional spheres in Tunisia. This study forms part of the SHEMERA research project undertaken, in joint effort, by the Faculty of Sciences of the University of Carthage in partnership with other Arab and European institutions. The overall objective of SHEMERA project is to enhance research cooperation on gender and science between the European Union and the Mediterranean countries. Research cooperation is intended to better understand the roots of gender inequality and women’s segregation in science particularly in the Mediterranean area, by taking into account the cultural diversities and traditions, and analysing how the Mediterranean countries are addressing this specific issue due to its tremendous relevance.

The research project aims to produce national data in Mediterranean Arab countries (Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, Syria, and Tunisia) that can form the basis for a comparative analysis on the current situation, with the objective of benchmarking future development in this field against a baseline that can guide researchers, policy makers, and strategists to areas that need to be addressed.

The research focuses on three key themes to underpin the current situation of women in science in each country at the national level:

1. Compiling sex-disaggregated statistics covering women and men’s distribution in scientific fields and careers, seniority and influence;
2. Collating scientific literature on gender inequalities in science careers with focus on horizontal and vertical segregation and the underlying causes and effects of these two aspects;
3. Reviewing available gender equality policies, legislations, national strategies and positive actions for women including equal opportunities legislations.

It is a fact that the imbalance in the number, seniority and influence of women and men in scientific and professional fields is a worldwide matter. In fact, the roots of gender inequity lie deeply within each society, each profession and each institution. Knowing that gender imbalance is not a self-correcting phenomenon, no significant changes will be seen in this area unless concrete measures targeting specific aspects of its manifestations are to be taken. The following sections discuss the statistics pertaining to women and men’s distribution in scientific fields, seniority and influence; we also present a review of some gender equality policies. The report concludes with recommendations.

1. WOMEN IN SCIENCE STATISTICS

Methodological and data issues

Main data sources:
- Institut National des Statistiques - INS
- Ministère de la formation professionnelle et de l'emploi – ONEQ
- Ministère de l'Enseignement Supérieur et de la Recherche Scientifique – MESRS
- Bureau des Etudes, de la planification et de la programmation – BEPP
- Agence Nationale pour l'Emploi et le Travail Indépendant – ANETI
- Observatoire National des Sciences et de la Technologie – ONST

The main gap in data collection for Tunisia was for the category of researchers. The lacking of data on researchers stems from the absence of an R&D survey in Tunisia. Therefore, the category of researcher cannot be analyzed in detail. And the distinction between researchers, technicians and other positions is not obvious.
Moreover, in the absence of a survey on wages, there are also no raw data to estimate the gender wage gap in academia.

Data from MESRS and ONST provide partial information on R&D expenditure for the Higher Education and the Government Sectors but not for the Business Enterprise Sector. Data on academic science and research are more readily available.

Tunisia applies 9 grades for teaching personnel:
- Grade A: Professor
- Grade B: Associate professor
- Grade C: Assistant professor
- Grade D: Assistant
- Grade E: Key personnel of University hospitals
- Grade F: Master technologist (“Maître technologue”)
- Grade G: Technologist
- Grade H: Assistant technologist
- Other grades

For the present study, we have looked only at grades A, B, C, D as they can be made comparable with the grade system applied to academic personnel in the other Arab Mediterranean countries. Although grade A personnel can be broken down by field of science there is no information available on the age of grade A staff.

To assess to what extent women can determine the scientific agenda, two indicators are available: the number of female heads of institutions in the higher education sector and the more restricted indicator that focuses on female heads of universities or other institutions accredited to deliver PhD degrees in higher education. However, there is no data on the proportion of women on boards and the proportion of women among applicants and recipients of research funding.

Introduction

In Tunisia, the gender gap in employment rates is very large: in 2010, the male employment rate stood at 62% whereas the female rate stood at 20% only. These figures are very close to the employment rates reported for Tunisia in the World Development Indicators series published by the World Bank.

Tunisia has 13 universities. The three biggest universities in terms of the number of students enrolled are Tunis El Manar University, Carthage University and Sfax University. These 13 universities regroup 193 institutes and faculties of which 41 are accredited to deliver PhD degrees.

The presence of women in science

In Tunisia, the share of women among PhD graduates has increased from 48% in 2004 to 56% in 2010. At present, there are thus more women graduating with a PhD than men.

Scientific fields or horizontal segregation

These female PhDs were distributed across different fields of science as shown by graph 1. A first finding to underscore is that in Tunisia, women outnumber men among PhDs in 4 fields of science. In the other MPCs the share of women tends to be much lower in all fields of science. What is not at all surprising is to find out that women form an absolute majority of PhD graduates in Health & welfare and Social sciences, business & law. Note that the total number of PhD graduates in Health & welfare (38) was very low in 2010. On the contrary, it is remarkable that in Tunisia women form a minority among PhDs in Education and Humanities & arts, as these fields tend to be feminized. Note again that in education there were only 46 PhD graduates in 2010. What is also remarkable is to have 61% of female PhDs in Science, mathematics & computing, a field that usually has difficulties in attracting women. Together with the finding that there are 45% of women among PhDs in Engineering, manufacturing &
construction, this seems to suggest that traditional patterns of gender segregation across fields of science are not replicated in Tunisian academia.

The same (counterintuitive) findings are put forth by Graph 2 which compares the distribution of female and male PhD graduates across broad fields of study. Women are more likely than men to do a PhD in Science, Mathematics & Computing whereas men are more likely to do it in Humanities & Arts.

In total, in 2010, women represented 50% of PhD graduates in natural science and engineering. This overall figure masks a high level of disparity between the different subfields of science and engineering. Although women form 76% of all PhD graduates in the subfield of life science they represent just 41-42% in those of engineering and engineering trades and of mathematics and statistics (graph 3).
Seniority or vertical segregation

The scissors diagram in graph 4 shows that in 2010, the share of women exceeds that of men at all stages of the academic career up until grade D. Among master students (ISCED 5A) there are 65% of women and just 35% of men. The student population is thus highly feminized. Among the graduates at this level, the share of women falls back to 58%. The same can be observed at the next level, that of the PhD. Women represent 61% of PhD students and 56% of PhD graduates. At the lowest grade of academic personnel, at grade D, women continue to outnumber men; they represent 57% of all academic personnel with grade D. It is at this stage that the scissors open in Tunisia and they open wide. At grade C, the share of women falls back to 36%, at grade B to 23% and at the top, amongst grade A academics, we are left with just 13% of women. Compared with the total of academic staff, grade A staff represents only a very small share, female grade A staff represent 2% of all female academics and male grade A staff 12% of all male academics.

Moreover, over time, the gender imbalance that favours women in the lower half of the academic career appears to have become stronger whereas in the upper half of the diagram, the higher we climb up the academic ladder the less there seems to be progress towards gender equality, women are catching up with men but all the more slowly as we climb the ranks.

The existence of a thick glass ceiling in the academic world in Tunisia is also put forth by the glass ceiling index which is very high and rising, from 3.1 in 2004 to 3.4 in 2010.
In 2010, the scissors diagram looks very similar in the specific field of science and engineering as depicted by graph 5. Up until grade D, the proportion of women remains above that of men with equality at PhD graduation. Then at grade C, there is a reversal as we are left with just 38% of women. And after that the gap continues to widen, at grade B level, women’s share has dropped to 21% and they are just 15% of grade A academics in science and engineering. At this highest level, the gender imbalance in science and engineering is slightly smaller than in all scientific fields taken together: women represent 15% of grade A staff in science and engineering and 12% of grade A staff in all scientific fields together.

A comparison between 2004 and 2010 shows that the proportion of women has increased tremendously at all levels up until grade D. Women have moved from a minority situation to a majority situation among master and PhD students and graduates. Although their share has also increased at the different grades, this increase has been far less pronounced.

Graph 5: Proportions of men and women in a typical academic career in science and engineering, students and academic staff, 2004/2010

Female grade A academic staff in Tunisia are best represented in the medical sciences where 27% of all grade A academics are women. Around 15-16% of all grade A staff in the social sciences, the humanities and the natural sciences are women. The gender gap is widest in engineering and technology and in agriculture where just 10% or less of all grade A academics are women.

Graph 6: Proportion of female grade A staff by main field of science, 2010

In Tunisia, the bulk of both male and female grade A staff are in the medical and the natural sciences (Graph 7).
Access to decision-making in science

Of the 193 university institutes and faculties in Tunisia, just 21 have a female head. This corresponds to 11%. Among these university institutes and faculties, 41 are accredited to deliver PhD degrees. Of this more restricted subset of institutes just 1 has a female head, corresponding to 0.2%. Women are thus almost absent from academic decision-making.

2. GENDER EQUALITY POLICIES

2.1 POLICY CONTEXT

Legislative framework

In Tunisia, gender equality legislation has been progressively developed since the country gained independence in 1956. It started with the promulgation of the Code of Personal Status in 1956, which abolished polygamy, instituted official civil marriage and legal divorce and established a new family structure based on the equality of the spouses before the law. Article 6 of the old Tunisian Constitution (1959) established that "all citizens have equal rights and duties. They are equal before the law", thereby paving the way for subsequent laws gradually granting fundamental rights to women in all domains: eligibility and the right to vote, the right to work, the right to free education, the right to social protection, the right to conclude contracts, etc.

Tunisia ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1985 with reservations concerning articles 9 (2) (equal rights with regard to nationality of children), article 16 (c), (d), (f), (g) and (h) (equality in marriage and family life), and 29 (1) (related to the administration of the convention; i.e. arbitration in the event of dispute), and with a general declaration that the government "shall not take any organizational or legislative decision in conformity with the requirements of this Convention where such a decision would conflict with the provisions of chapter I of the Tunisian Constitution".
The CEDAW Committee\(^1\) has expressed concern that “the Constitution does not embody the principle of equality between women and men nor contain a definition of discrimination against women in accordance with article 1 of the Convention” and the persistence of discriminatory laws and provisions.

Tunisia has been in transition since President Zine al-Abidine Ben Ali was ousted in January 2011 at the start of Arab spring. Developments in the field of gender equality legislative framework are marked by uncertainty. In 2014, the Tunisian Council of Ministers adopted a draft decree to withdraw all reservations to the CEDAW, although the general declaration (mentioned above) would remain in effect. The inclusion of an explicit non-discrimination clause in the new constitution remains controversial in spite of strong pressure from women’s movement.

**Institutions and policies**

The first Ministry for Women and the Family was created in the early 1980s in the wake of the fallout from the Nairobi conference, but it experienced difficulties that led to its dissolution. It returned in 1996 with its powers strengthened and the mandate to develop government policy on the promotion of women and family and coordinate the activities of various ministries involved in these fields. Since 2002, the Ministry has successively been given the domain of childhood (2002) and the elderly (2004), and has become the Ministry for Women, the Family, Childhood and the Elderly (MAFFEPA).

MAFFEPA plays a key role in the design, implementation and leadership of gender equality policies.

The MAFFEPA is assisted in achieving its mission by three important structures:

- The Centre for Research, Studies, Documentation and Information on Women (CREDIF), established in 1990, which is the scientific and technical body of MAFFEPA;
- The National Council on Women and Family (CNFF), established in 1992, which is a consultative body and the main instrument of coordination between governmental and non-governmental players in considerations concerning the policy for enhancing the status of women and the family. CNFF activities are currently developed through three committees: the committee for promoting the participation of women in public life; the committee for the reconciliation of family and professional life; the committee for promoting the elderly;
- The National Women and Development Commission, a consultative planning and evaluation structure in the framework of national planning.

Gender legislation and related policies have witnessed several waves of reforms since Tunisia’s gain of independence in 1956. The post-independence phase under the President Bourguiba (1957-1987) was marked by the promulgation of the Code of Personal Status in 1956 and the Constitution of 1959, followed by other laws granting fundamental rights to women in other domains. During the 1960s, wage equality was introduced and education became mandatory for boys and girls. Literacy programmes were developed opening the way for education and participation in development for men and women.

The post-Bourguiba phase (1987-2011) was marked by the continuation of the process of consolidation of women’s rights and the adoption of gender as a policy leading to the establishment of de facto equality. A strong women’s movement developed in the 1980s and especially the 1990s pressured power holders in this direction. The integration of gender into the development planning process (gender mainstreaming) has been on the agenda of the five-year development plans since 1991, i.e. with the preparation of the 8th Plan (1992-1996).

The revolution started in 2011 brought hope for the full participation of women in the political transition and further improvement of women’s rights and liberties, namely in the public sphere. A gender parity requirement was adopted in the Constituent Assembly election of 2011.

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\(^{1}\) Committee on the Elimination of Discrimination against Women, Forty-seventh session, 4-22, October 2010 (CEDAW/C/TUN/CO/6)
few parties put women on their lists in the first place, this adoption nonetheless improved women's political participation in the 2011 elections. Civil society initiatives have developed to change the constitution and introduce an explicit non-discrimination clause, although this remains a controversial issue in the current policy climate. Further developments depend on the results of the general elections at the end of 2014.

2.2 GENDER EQUALITY POLICIES IN SCIENCE

Structures for gender equality in science

In Tunisia there is no national steering committee or gender unit at ministerial level to support women in scientific research.

Statistics and indicators

Sex-disaggregated statistics on women and science are not centralised. "Bchira ben Mrad" contains statistical data disaggregated by sex in the fields of education, health, employment and participation to public life. But statistics regularly published by the National Institute of Statistics are not sufficiently refined or gendered to evaluate and monitor the situation of women in science. There is no R&D survey in the country.

Gender balance measures

In accordance with the recommendations of CEDAW, the Tunisian State has quantified the objective to be achieved in terms of the presence of women in decision-making positions (30%). However, women currently still only represent 22.5% of people in decision-making decisions in civil service, where they represent 40% of the personnel.

After the revolution in 2011 the law for the election of the members of the Constituent Assembly provided that the electoral lists must be established respecting parity between men and women. There are no other quota rules for women in public institutions but non-quota measures have been applied to promote the integration of women in public life. For example, the joint circular of the Ministry of the Interior and the Ministry of Women's Affairs and the Family (1998) invited the governors of the regions to systematically appoint at least two women among the members appointed to each regional Council. As a result, women currently represent 32% of all members in 24 Regional Councils. These women are virtually the only women in Tunisia’s interior regions to take part in decision-making at the regional level.

There is no official engagement to promote gender balance in science. Despite women’s underrepresentation in science and on the scientific boards of various academic institutions and other research structures, there are neither quota nor targets.

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.

Monitoring

Mentoring is not an institutionalised practice as regards junior scientists of either sex. There are no specific mentoring programmes for women in science at the national level.

Funding

Research funding is awarded on the basis of merit, without any gender-related provision to ensure equal access to funding. There are no special funds or prizes for women, although there are relevant international initiatives such as the L’Oreal scholarships.
Work and family balance

Tunisia provides only 30 days of maternity leave in the private sector, which is the shortest period of leave among the African countries. Leave can be extended for 15-day periods for medical reasons for up to 12 weeks. To be entitled to maternity leave one must have a record of at least 80 days of insured employment in the last four quarters. The benefit is 66.7% of the average daily wage. The average daily wage cannot exceed twice the legal daily minimum wage. Benefits are paid monthly. Mothers are also entitled to a half-hour break twice a day for one year to breastfeed infants.

The public sector offers a two-month fully paid maternity leave. This leave can be extended with four months paid at 50%.

The duration of paternity leave is one day in the private sector and two days in the public sector.

Since 2006, in the public sector, the law has permitted mothers with children under 16 or with a handicapped child to work part-time while receiving two-thirds of their salary for a period of three years, twice renewable. However, this measure did not prove popular, because while many women would welcome shorter hours from the point of view of balancing work and family, the majority require a full-time salary to help the family financially.

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

There are some specialized gender courses, especially in social sciences and literature, but no autonomous degree in gender studies.

In 2009/2010, the Faculty of the Humanities and Social science of the University of Tunis implemented a Master in Women’s Studies, which unfortunately was quickly abandoned because the objectives and content of the programme was not thoroughly considered nor communicated clearly enough. However, it shows that there is an interest in the introduction of this type of education, although more time is needed to ensure the sustainability of a degree in gender studies.

Networking

The non-profit organisation “Women and Science” at the Faculty of Science of Tunis University organises numerous activities that facilitate the networking of scientists and researchers:

- Organisation of conferences, debates, meetings and round tables.
- Organization, since 2005, of an annual multidisciplinary conference to make women’s participation in scientific research visible and to encourage young researchers to persevere in this area. Prizes are awarded to the best presentations in different scientific fields.
- Provision of information and training on science and business.
- Realisation of studies on women in science and research.
- Creation of a database on women in science.
- Participation in national, regional and international conferences on women, especially on “Women and Science”.
- Communication with the media on women, science and technology.
3. RECOMMENDATIONS

The National seminar, held on May 25 2014 in Tunis, discussed the situation of women in science and proposed the following recommendations:

1. Provide a new action plan for the promotion of women's conditions
2. Promote research on women's conditions and obstacles to greater autonomy
3. Provide a system for monitoring the societal obstacles
4. To better align the national research with the international research
5. Creating jobs - post-docs for scientists in Tunisia
6. Regularly discuss gender developments in Europe
7. Establish networks of researchers from both sides of the Mediterranean
8. Consider a program of global innovation that increases women's opportunities in the private sector
9. Participate in H2020 projects on societal challenges and gender: Inclusive societies identity and cultural heritage
10. Provide a more important role for NGOs to advance gender equality
11. Encourage women to contribute more actively in the dissemination of scientific knowledge (through advocacy, information, meetings, awards, prizes, etc ...)
12. Updating records and database on the activities of Tunisian women in Tunisia and abroad
13. Strengthening the presence of Tunisian associations and NGOs in similar events (IIWE, SWE ...)
14. The political level, to promote women in critical positions
15. Transpose UN conventions
16. Engaging women in their own visibility
17. Regularly report all forms of stereotyping and discrimination
18. Mainstreaming gender in the education system
19. Urge for parity in the distribution of prizes, scholarships ...

To challenge gendered stereotypes and prejudices, the following actions are envisaged:

1. Primarily generate sex-disaggregated data by area and type
2. Increase the critical mass of girls in universities
3. Increase the contribution of women in networks around matriarchal values
4. Encourage women to be exemplars role models and share knowledge with other researchers
5. Promote knowledge dissemination to civil society
6. Promote research aligned to societal needs
This report aims to highlight some of the findings on gender imbalance in scientific careers in academic and non-academic sectors in Tunisia that have evolved from a joint research project undertaken by the University of Carthage 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 Tunisia:

- 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.