EURO-MEDITERRANEAN RESEARCH COOPERATION ON GENDER AND SCIENCE

NATIONAL REPORT: MOROCCO

University Hassan II Casablanca

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INTRODUCTION

This report aims to highlight some of the findings on gender imbalance in women’s careers in the academic and professional spheres in Morocco as part of a joint research project undertaken by the University Hassan II Casablanca in partnership 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 Mediterranean countries. Research cooperation is intended to better the understanding of the roots of gender inequality in science in the Mediterranean area, by taking into account the cultural diversities and traditions, and analysing how the Mediterranean countries are addressing this specific issue.

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.

There is an imbalance in the number, seniority and influence of women and men in scientific fields and professions worldwide. The roots of gender imbalance lie deep within each society, each profession and each institution. Gender imbalance is not a self-correcting phenomenon and only concrete measures targeting specific aspects of its manifestations can lead to any significant change in this area.

The following sections discuss the statistics pertaining to women and men’s distribution in scientific fields, seniority and influence, and the gender equality policies. The report concludes with recommendations.

1. STATISTICS ON WOMEN IN SCIENCE

Methodological and data issues

Main data sources:

- Activité, emploi et chômage 2004, Royaume du Maroc, Haut Commissariat au Plan, Direction de la Statistique
- Activité, emploi et chômage 2010, Royaume du Maroc, Haut Commissariat au Plan, Direction de la Statistique
- Annuaire statistique du Maroc 2004
- Annuaire statistique du Maroc 2009
The main gap in the collection of Moroccan data concerns access to decision-making. All indicators that would allow an assessment of the extent to which women can determine the scientific agenda are missing, such as the number of female heads of institutions in the higher education sector, the proportion of women on boards and the proportion of women among applicants and recipients of research funding.

Other important gaps in the data collection for Morocco concern the population of researchers:

- There are no data on researchers in the Business Enterprise Sector and the Private Non-Profit Sector
- It is not possible to distinguish researchers from technicians and other supporting staff within the total group of R&D personnel although this is the only way by which vertical segregation can be studied in sectors other than higher education.

There is also no information available on the gender pay gap in science and research. Public expenditure on R&D was reported for 2003 and 2006.

On the contrary, the collection of data on tertiary students, PhD students and graduates and academic personnel at the different hierarchical level of the academic career is very complete allowing for detailed analyses by age and scientific field comparing the academic years 2004-2005 and 2008-2009.

**Introduction**

The male employment rate stood at 68% and the female rate at 23.4%. These rates conform to those reported through the World Development indicators series by the World Bank. There is thus a huge gender gap in employment and the female rate is very low.

Morocco has 295 universities or other higher education institutions. In 2006, 0.8% of GDP was spent on R&D.

**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. These fields are natural sciences, engineering and technology, medical sciences, agricultural sciences, social sciences, humanities, and others. They represent 35% of this category in 2004 and 43% in 2010. When the scope is limited to 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, the share of women drops to 24% in 2004. Their share among scientists and engineers is slightly higher at 27% in 2004 and corresponds exactly to the share of women in total employment.

The research population is also male-dominated, in 2010 just 32% of all researchers in higher education were women and this meant a decrease compared with 2004 when there were 35% of female researchers.

Graph 1 breaks down the research population in higher education by age group for 2010. It shows that female researchers are only slightly younger than male researchers. In the two youngest age groups, the share of female researchers exceeds that of male researchers and in the older age categories, the inverse is observed.
Scientific fields or horizontal segregation

In Morocco, 34% of PhD graduates were women in 2010 compared with 32% in 2004. In 2010, these women were distributed across the different fields of science as shown by graph 2. Women form a minority of PhD graduates in all fields of science although a gender balance is almost achieved in health and welfare (49% of PhD graduates in this field are women). The share of women among PhD graduates is almost identical at 37-38% in education, science, mathematics and computing. It is lower at 31-34% in the humanities and arts, engineering, manufacturing and construction and the social sciences, business and law.

In total, in 2010, women represented 37% of PhD graduates in natural science and engineering. Graph 3 shows that within this field of science women constitute a majority of PhD graduates in the subfield of life sciences, they represent one third of all PhD graduates in physical science and engineering and engineering trades, one fifth of PhD graduates in computing and finally, only 17% in mathematics and statistics.
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 in Morocco, female researchers are rather evenly distributed across four fields of science: the humanities, the natural sciences, the medical sciences and engineering and technology.

Graph 3: Proportion of female PhD graduates in natural science and engineering by subfield, 2010

Source: National expert

Graph 4: Distribution of researchers in the Higher Education Sector (HES) across fields of science, 2010

Source: National expert

To conclude, in Morocco, the dissimilarity index in the higher education sector stood at 0.14 in 2010 pointing towards a moderate degree of imbalance in the distribution of female and male researchers across fields of science.

Seniority or vertical segregation

The scissors diagram in graph 5 shows that in 2010, 48% of ISCED 5A students and 52% of ISCED 5A graduates were women. The share of women at this ISCED 5A level has slightly increased between 2004 and 2010. In Morocco, it is at this point that the scissors start to open. The glass ceiling seems to be located between the ISCED 5A level and the PhD level as only 37% of PhD students and 40% of PhD graduates are women in 2010. At the PhD level the shares of women have increased since 2004 when they were still only just above 30%. After the PhD level or at the entrance into the academic career the scissors open very rapidly. At the lowest academic grade, grade D, there are just 33% of women in 2010. Their share drops further to 23% at grade B and at the highest rank of the academic hierarchy there are just 18%
of women. Still, compared with many European countries and other Euro-Mediterranean Partner countries, a share of 18% of women at grade A is relatively high. However, a comparison between 2004 and 2010 shows that at the highest level there has been no evolution towards a better female representation.

That there is a glass ceiling is also illustrated by the glass ceiling index which had a value of 1.4 in 2010, down from 1.6 in 2004. It should be noted that the share of academics at grade A among all academics is also relatively high in Morocco unlike in most countries where grade A academics are usually a very small group. In Morocco, 35% of all female academic staff is at grade A and 53% of all male academic staff.

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

The scissors diagram is rather similar in the specific field of science and engineering as depicted by graph 6. The glass ceiling is not stronger in science and engineering than in all science fields considered together. Up until the entrance into the academic career the share of women is generally just above 40% but then the scissors open quickly and the share of women falls back to 31% at grade C, 27% at grade B and 17% at grade A. A neat increase in the proportion of women has taken place at all levels between 2004 and 2010.

Graph 6: 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 Morocco are best represented in the medical sciences where 28% of all grade A academics are women. The medical sciences are followed by the natural sciences and the humanities where there are 18% and 15% respectively of women among grade A academics. In engineering and technology and even more so in the social sciences, the share of female grade A staff is very low, 11% in the former field and 7% in the latter.

Graph 7: Proportion of female grade A staff by main field of science, 2010

In Morocco, the bulk of both male and female grade A staff are in the natural sciences: 62% and 59% respectively. The remaining grade A academics are in the humanities and the medical sciences.

Graph 8: Distribution of grade A staff across fields of science by sex, 2010

Access to decision-making in science

No data available.
2. GENDER EQUALITY POLICIES

2.1 POLICY CONTEXT

Legislative framework

Article 19 of the new Constitution of 2011 enshrines the principle of equality between men and women in the protection of all human rights. It proclaims that the State shall endeavour to achieve equality between men and women and it sets up an authority to promote equality and fight against all forms of discrimination.

The Constitution consolidates the achievements of previous legislative reforms that have contributed to greater equality between men and women and to eliminating discrimination against women. These reforms included the revision of the Commercial Code in 1995, the adoption of the new law on civil status in 2002, the new Code of Criminal Procedure in 2003, the continuing reform of the Penal Code since 2003, the changes in the Labour Code in 2003, the reform of the Family Code in 2004 and the reform of the Nationality Code in 2007.

The new family code established in 2004 (Moudawana) is considered one of the most progressive in the Arab world. The new code introduced modifications to the rules of inheritance, raised the minimum age of marriage and secured women’s right to divorce. However, it does not fully guarantee equal rights for women and men.

The Constitution enshrines the primacy of international law in the legal order and requires that national laws be in compliance with the country’s international obligations.

Morocco acceded to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1993 with several reservations. In 2011, Morocco decided to withdraw the reservation concerning article 9 (2) (transmission of nationality to children) and article 16 (equality in marriage and divorce). It maintains, however, a declaration concerning article 2 (policy measures), which applies provided it does not go against Islamic Shari'a; article 15 (4) (freedom to choose residence and domicile), which applies only if it is not contrary to Articles 34 and 36 of the Moudawana; and a reservation concerning article 29 (1) (related to the administration of the convention; arbitration in the event of a dispute).

Institutions and policies

The Ministry of Social Development, Family and Solidarity is responsible for promoting and protecting women’s rights. A ministerial Delegation for Human Rights was established in April 2011 to coordinate the efforts of various ministries and public agencies in the protection and promotion of human rights and international humanitarian law.

The National Council for Human Rights and the Institution of the Ombudsman aim to promote greater coherence and effectiveness in the protection and promotion of human rights, including those of women. These two bodies benefit from a good representation of women among their members and are attentive to human rights concerns of the past. Women represent 43% of board members at the national level and 30% at the regional level:

- The National Council of Human Rights operates in accordance with the principles relating to the status of national institutions for the promotion and protection of human rights (Paris Principles). It is an independent and representative institution for the defence of human rights and, inter alia, formulates recommendations to further comply with international standards for human rights and harmonization of national legislation. It also receives complaints about violations of rights.
- The Institution of the Ombudsman is an independent national institution responsible for investigating complaints of citizens to the address of public administrations. The Institution also provides legal assistance to women to defend their rights as citizens and it works towards increasing transparency in public administration.
The Labour Code adopted in 2004 prohibits discrimination (article 9) including discrimination based on sex, in hiring, managing and distributing work, pay, promotions, benefits, dismissals and vocational training. Article 346 prohibits wage discrimination between men and women for work of equal value. The Labour Code does not however provide protection for domestic workers who are mostly women, girls and migrant workers. Article 4 stipulates that the work and employment conditions of domestic workers are determined by a special law, which has not yet been adopted.

Following a royal decree and with the support of an actively participating civil society, the former government adopted in 2011 a National Strategy for Equity and Gender Equality (NSEGE) for the period 2011-2015. The aim is to integrate a gender approach into all development policies and programmes. One of the major objectives of this strategy is to reform the electoral system to promote a fairer representation of women. The strategy aims at intervening in different fields:

- Civil rights (implementation of the Family Code, fight against gender-based violence, etc);
- Representation and participation in decision-making at the political and economic level;
- Social and economic rights;
- Changing social and individual behaviours by acting against stereotypes and promoting egalitarian values;
- Anchoring the gender approach in institutions and policies (organizational audits, pilot experiences, the “Equal Rights Charter”, gender-sensitive budgets, etc.)

The strategy aims at promoting women and men’s fair and equal access to economic decision-making. It therefore encourages the adoption of positive measures to particularly encourage women’s access to economic decision-making by progressively applying a system of quotas in economically focused public structures. It also encourages the private sector to provide better support for women and to enhance women's representation in professional associations. It supports companies that have developed good practices to promote equality between men and women (prize, creation of the “Equality Label”). And, finally, it monitors and evaluates constraints and opportunities for professional female executives who have the required qualifications.

However, women's groups were concerned with the fact that when announcing its future program in Parliament on 19 January 2012, the new government did not mention the agenda for equality, neither in the context of its commitment to achieving the Millennium Development Goals, including Goal 3 on gender equality, nor in the context of the application of international conventions, including the CEDAW. They were concerned about the potential impact of this omission by the government on the promotion of women’s human rights.

2.2 GENDER EQUALITY POLICIES IN SCIENCE

Structures for gender equality in science

In Morocco there is an Academy of Science and Technology as well as other Royal Academies, but there is no National Committee on Women and Science. The Ministry of Higher Education and Research does not have a Women and Science Unit, although there is a Gender Committee in the Ministry of Education.

There has been a recent University reform in Morocco (Emergency Plan 2009 - 2012) with the aim to strengthen higher education and research in order to meet the demands of the labour market and economic development. However, the reform did not issue any specific recommendation on equal opportunities for women in research and technology. Gender issues were also absent in the Action Plan 2013-2016.
**Statistics and indicators**

Sex-disaggregated statistics have been available for the last few years. The High Planning Commission (Haut Commissariat au Plan), the Ministry of Budget, the Ministry of Higher Education and Research, as well as universities and academies, produce sex-disaggregated statistics.

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

**Gender balance measures**

Since the legislative elections of 2002, with the adoption of affirmative action measures, the national context is marked by vibrant royal governmental and non-governmental dynamics around the issue of strengthening women’s political and economic rights and increasing women’s presence in decision-making positions. The Moroccan government is committed to increasing women’s participation in all decision-making bodies, according to Millennium Development Goal 3. Initiatives have been taken by the different actors to increase women’s representation, especially in politics: Parliament (the quota of 30 seats reserved for women has been adopted in two consecutive terms: 2002 and 2007), government, municipalities and political parties.

However, there is no official engagement to promote 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. Although some studies have issued recommendations along these lines, to date they have not been applied.

**Mentoring**

Mentoring is not an institutionalised practice as regards junior scientists of either sex. There are no 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 at the national level, although there are relevant international initiatives such as the UNESCO-L’OREAL fellowships.

**Work and family balance**

Maternity leave in Morocco is 14 weeks full paid. There is no paternity leave.

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**

The emergence and development of women’s and gender studies research centres has been a trend over the last decades. Several of these centres have developed postgraduate programmes (the first one being created in the University of Fez in 2000). These centres and the postgraduate units they helped create produced the first cohorts of MA and later PhD students in gender studies starting from the early 2000s.
Networking

Morocco has an active women’s rights movement, also in the field of science and research with NGOs such as the Women and Science association in Casablanca or the Association of Women Engineers. Their goal is to promote the presence of women in science and technology, encouraging young girls to specialise on SET fields and promoting gender equality in the professional field.

3. RECOMMENDATIONS

The National Workshop was held on 27 and 28 March 2014 at the University Hassan II-Mohammedia under the theme: “Towards a National Strategy for the Advancement of Women in Science and Technology”.

The discussion at the seminar focused on the enumeration and prioritization of problems that hinder equality in science and proposals for action.

The problems were summarized as follows:

- Lack of statistics by gender
- Lack of equality strategy.
- Opacity at the level of access to employment at university and at the access of women to decision-making positions.
- Lack of visibility of women researchers and leaders in science and technology
- Self depreciation of women to stand for positions of responsibility
- Lack of actions for the reconciliation of professional and family life
- Low participation of women in research projects

The following recommendations were adopted by the representatives of different sectors for the promotion of women in science:

- Institutionalization of the gender approach: developing statistics bodies
- Annual publication reporting on women in science (Ministry of Higher Education, Ministry of Education, CNRST, HCP1)
- Establish a quota for women in different bodies (Commissions, board of examiners, board of Institutions…)
- Make objective and transparent selection criteria of candidates for recruitment
- Presence of a delegate that enforces equality
- Take as a model the experience of Ministry of Education, in order to create at the Ministry of Higher Education an Observatory for equality.
- Transitional measures for the achievement of equality by ministerial decision (selecting a woman when candidates have equal skills).
- Database of female researchers by specialty areas to make available to the media.
- Developing mentoring programs to motivate and encourage women to stand for positions of responsibility.
- Adaptation of meeting hours of departments and institutions’ councils.
- Establishment of paternity leave.
- Preservation of promotional rights for women on maternity leave
- CNRST should introduce a quota for women in research projects.

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1 CNRST: Centre National de Recherche Scientifique et technologique (National Centre for Scientific and Technical Research); HCP: Haut Commissariat au Plan (National agency responsible for statistics and surveys in Morocco).
This report aims to highlight some of the findings on gender imbalance in scientific careers in academic and non-academic sectors in Morocco that have evolved from a joint research project undertaken by the University Hassan II Casablanca 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 Morocco:

- 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.