Women’s Empowerment, Research, and Management: Their Contribution to Social Sustainability

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Abstract: This article enhances some ideas and opinions related with the challenges that women across the world face nowadays to pursue a professional career. The route they take has frequent obstacles of a distinct nature, which are not always comparable with those faced by men. The starting point of this work is the conclusions of the workshop “Women empowerment and gender equality, responsible research and innovation”—Research Project “SOILdarity”. This workshop revealed a diversified view about the subject, evidencing its connection with the social sustainability, with a special focus on academia and research management. This document introduces the topic in the context of the workshop, revises key aspects of women’s empowerment in a society still dominated by men’s opinions and organization (gender balance, obstacles and strategies), highlights the situation of women in academia and in research management, and gives the authors’ opinions about some questions related to gender and equality. We conclude that all societal actors must acknowledge women as key actors in contributing to social sustainability, working together towards creating an environment where they can have leadership roles.

Keywords: women; gender and social perception; social sustainability; research management; family and academia; non-paid work

1. Introduction

The concept of gender practices refers to the complex, multifaceted everyday social practices of distinguishing between men and women or masculinity and femininity [1]. It involves informal and formal processes, meaning that social stratification and cultural trends are not always clear or recognizable. In this context, implementing gender equality is difficult, even for politicians and decision makers, who are also part of the society and reflect these ambivalences and contradictions. Women’s empowerment has, thus, become a term used by an expansive discourse of people and organizations to confront and transform unjust and unequal men/women power relations. Social sustainability blends traditional social policy areas, such as equity and health, with emerging issues concerning participation, needs, social capital, economy, or the environment [2]. There are four dimensions of social sustainability that combine social policy principles: equality and diversity, quality of life, social cohesion, and democracy and governance. The equality dimension is the act to reduce disadvantages to certain groups or to help them to remove barriers to have more control over their lives. It also encompasses identifying the causes and reasons of disadvantages and find ways to reduce them. Women’s empowerment is aligned with the Sustainable Development Goals (SDG) and with European policy objectives for sustainability and diversity. The agricultural sector is a good example of this: the gender gap in access to agricultural equipment, loans, and knowledge prevents women from participating in agricultural production, which constrains the development of this sector [3]. The European Parliament stated that “Women’s empowerment means women gaining more power and control over their own lives. This entails the idea of women’s continued disadvantage
compared to men, which is apparent in different economic, socio-cultural and political spheres” [4]. Therefore, women’s empowerment and their building capacity and skills development contribute to social sustainability through measuring the inequalities in women’s access to goods and services, which is a key component to reach equality and diversity [2]. Indicators (figures, statistics) on women’s participation in diverse activities and sectors only provide the frequencies that may be observed. This suggests that indicators do not provide a clear contribution to deeply understand the factors influencing women’s promotion and progression in research careers, nor do they offer much insight into institutional arrangements and mechanisms for promoting gender balance [5]. The usual promotion indicators in professional careers do not take into consideration the different realities experienced by men and women, and therefore, they mostly promote gender imbalance. Developing measures for gender equality is not straightforward, mainly because, like the roots and the shoots of a plant, the distinct genders perform different functions and have specific skills and traits, but they all are indispensable for social sustainability.

Responsible Research and Innovation (RRI) is a framework in Science and Technology Studies (STS) that includes the gender dimension and has been assuming increasing importance and visibility. RRI is a priority policy recently launched by the European Commission (EU) that accounts for gender equality and it is currently under construction. According to The Embassy of Good Science “Responsible Research and Innovation (RRI) refers to engaging the public in the research process to better align the goals and outcomes of research with the needs of society and to address societal challenges” [6].

Why is RRI relevant? The importance of RRI lies in the fact that research and innovation are frequently supported by public funds, and even if they are not, it is expected that they have implications for society, namely for social sustainability. In practice, RRI is implemented as public engagement in research and innovation, which has the key role of fostering access of all societal actors to scientific results, gender and ethics dimensions in these fields, and formal and informal science education [7]. Therefore, there is an urgent need to align research and innovation with social interests and values, which will allow us to say that societal challenges are being holistically addressed. RRI shall be anticipatory, inclusive, and reflexive, as well as responsive. The research products themselves will be immediately absorbed and appropriated by the community, in an interactive process of learning with other users and stakeholders [8]. Consequently, research may stimulate a continuous effort to dialogue with diverse societal actors and involve them in the research process. This will promote a space of expertise and experience sharing between science and society. At the same time, it can promote awareness about the key and transversal role of women’s empowerment for a sustainable society. However, women’s empowerment, as we see it, requires not only access to resources, but also the capacity and willingness to mobilize them, and the belief that it can be done [9].

To holistically address this topic with a transversal approach, the research project “SOILdarity” [10], funded by the European Union’s Horizon 2020 research and innovation program, arranged a workshop on “Women empowerment and gender equality, responsible research and innovation”. It was held online on 27 April 2021 as part of the trainings and dissemination activities of this research project, and it gathered a group of high-skilled professionals, experts, and researchers that provided a comprehensive outlook on the socioeconomic conditions and technological/innovation opportunities affecting women working in the scientific, agricultural, and soil management sectors. The aim of this workshop was to contribute to women’s empowerment in agricultural, environmental, and, more specifically, soil-related fields of research by considering gender issues.

In this paper we examine the conclusions of the above-mentioned workshop from an angle that takes account of social sustainability. Drawing on the analysis of the main ideas arisen during our research, we present our reflections about gender issues, equality, and female representativity in several sectors, with a special focus on science and science management and the importance of female representativity for the realization of social sustainability goals. This analysis will enrich future general discussions and it will contribute
to the development of strategies to overcome some of the common obstacles that women face to develop a professional career.

2. The Workshop “Women Empowerment, Responsible Research and Innovation”: Main Ideas

This event received 107 registrations from different countries and geographic contexts, with an average level of effective listeners above 60 people. The majority were high-skilled professionals from public institutions and services. The speakers and moderators gave a considerable number of inputs, as varied as their backgrounds and professions (entrepreneurs, technicians, researchers, managers, etc.). The male presence varied across sessions between 8% and 20% of the effective listeners, and male participants provided important (although not abundant) contributions to the debate. Thus, in addition to giving a broad view of women’s empowerment in different sectors, the workshop promoted the discussion on what gender issues are today in different regions, countries, and sectors. Although we aimed at members of the public from every country to attend the workshop, we were constrained by our network and could not reach the public from certain areas such as Asia or South America. Therefore, most of the discussion was focused on the regions represented by attendants: Eastern Europe, East Europe/others, South Africa, and the Mediterranean Basin (Africa). Table 1 provides detailed information on the sex, age, affiliation, academic background, and geographic distribution of the workshop attendants. The appreciation made by the attendants that answered the survey about the workshop gave a positive idea about the event and about its usefulness to increase discussions on gender issues and women’s empowerment. The authors of this paper, in general, share these observations and believe that the awareness about gender shall be plural, go beyond academia frontiers, and place itself in the multiple dimensions and contexts where it can be relevant.

Table 1. Brief characterization of attendants to the workshop.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Items</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Men</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>85</td>
</tr>
<tr>
<td>Age (Years old)</td>
<td>&lt;30</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>30–40</td>
<td>33</td>
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<tr>
<td></td>
<td>40–50</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>&gt;50</td>
<td>19</td>
</tr>
<tr>
<td>Affiliation</td>
<td>Research center/higher education institutions</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Public body</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Private sector/other</td>
<td>26</td>
</tr>
<tr>
<td>Academic background</td>
<td>Degree</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Master</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>PhD/post-Doc</td>
<td>42</td>
</tr>
<tr>
<td>Geographic distribution</td>
<td>Eastern Europe</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>East Europe/other</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Africa</td>
<td>18</td>
</tr>
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</table>

The workshop consisted of three sessions in which the invited experts contributed with 15 min presentations to different aspects of the topic of women’s empowerment. During the first session, the experts addressed the prominent issues related to women’s empowerment and gender equality: women in entrepreneurship, obstacles to develop a successful professional career inside formal organizations, and women in policy affairs.
The second session was devoted to women’s empowerment and gender issues in distinct realities, and the third one to the institutional support for women’s empowerment in the sciences, in science management, and in other activities. Following every session, the workshop offered a space and atmosphere of constructive debate and discussion in which most participants engaged. These discussion sessions led to conclusions and realizations that we supported with relevant and current literature and are reflected in this manuscript. Namely, the obstacles faced by women in their professional career (Point 2.2.) and related strategies (Table 2), the connection between women in academia and RRI (Point 3), and the list of actions to be implemented to help women to succeed (Point 4) were the main outcomes of this workshop. Six key issues arose from the workshop presentations and debate, showing the horizontality and actuality of the present social problems related with women’s empowerment and gender equality. Some strategies were presented to overcome the common obstacles and to enhance women’s roles in society (Table 2).

Table 2. Key issues and respective strategies to overcome some of the obstacles faced by women throughout their professional life.

<table>
<thead>
<tr>
<th>Issues</th>
<th>Strategies</th>
</tr>
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<tbody>
<tr>
<td>Issue 1: The evaluation of the professional quality of women often valorize femininity and even seduction as important attributes and part of their “professional skills”</td>
<td>Strategy 1: The evaluation of the professional quality of all societal actors shall be based on equal or equivalent criteria regardless their gender.</td>
</tr>
<tr>
<td>Issue 2: In science, female students continue to avoid the so-called “hard sciences” (mechanics, computing, silviculture, etc.)</td>
<td>Strategy 2: To promote girls’ engagement in hard sciences from an early stage in the education system and ensure that the lack of linearity in professional careers is not an obstacle for progression.</td>
</tr>
<tr>
<td>Issue 3: Since men generally tend to devote less time to family and other “no value for money” activities, they are more available to work for long hours, which is highly considered by the supervisors (most of them men), especially in the private sector</td>
<td>Strategy 3: To promote work efficiency vs. physical presence at the workplace. To foster work on a goal-driven basis vs. strict timetables.</td>
</tr>
<tr>
<td>Issue 4: The quota system is not consensual: on the one hand, quotas are useful to force women’s presence in many sectors; on the other hand, the quota system may contribute to maintaining the segregation and different considerations for men and women, as well as promoting an artificial insight about the real nature of women’s presence in the decision-making system</td>
<td>Strategy 4: To rethink the quota system to avoid gender segregation and different considerations for men and women beyond their professional quality.</td>
</tr>
<tr>
<td>Issue 5: In entrepreneurship, it is important to identify the specific difficulties experienced by women when innovating and investing and contribute to overcoming these constrains.</td>
<td>Strategy 5: To promote or choose candidates and/or projects according to curriculum evaluation and the characteristics of the project independently of gender (may include non-traditional sources of funding).</td>
</tr>
<tr>
<td>Issue 6: Teleworking and digital skills (the importance of which was exacerbated in the COVID-19 pandemic crisis) can be successfully performed by women, but this could bring them to a vulnerable situation of being professionally sidelined.</td>
<td>Strategy 6: To raise social and political awareness about the potential risk of promoting teleworking if targeted mainly for women (instead of equally for women and men).</td>
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3. Women in a Men’s World?

One hundred years after women won suffrage, women still live in a world where men hold the vast majority of power and women are consistently undervalued relative to them.
Being the “only one” is still a common experience for women in the workplace. According to the 2021 Women in the Workplace report [11], one in five women often find themselves the only woman, or one of the only women, in the room at work. This has a significant psychological impact putting women under increased pressure. In the workshop addressed in this manuscript, most feminine participants stated that they had faced such a situation.

3.1. To Assess the Gender Balance

The world is a men’s workplace. They describe and conceive it in their own perspective and from their own point of view as an absolute truth. It seems necessary to count on the narrative of women. As inequality occurs along gender lines, but also regarding other social factors, it is important to make an intersectional analysis that considers all the combination of factors that apply to a woman. This entails that the point of view of women will be determined by multiple overlapping factors (sexuality, class, race . . . ), and therefore there is not a unique narrative associated to women. However, it is unquestionable that this is a gender-based narrative. Women’s point of view, probably based on distinct values and assumptions compared to that of men’s, deserves the universal right to be different and to be treated with identical respect. Indeed, maybe it is not an issue of gender equality but of respect for differences and dignity in a plural society. To achieve this goal, it is necessary that key social actors (such as social role models and educators) assume and spread the idea that competence, professional value, and possibility of success are not solely men’s privileges. Discussions at the workshop contributed to highlighting this plurality as a fundamental dimension of an equilibrated society.

According to a traditional perspective, women and men are different from physical and intellectual points of view, and this may lead to the maintenance of the usual roles and social differences. The valuation of characteristics, e.g., strength, is related to a particular type of work and, therefore, this justifies differences in salary and other social perks. A balanced and equilibrated society should refuse this straight liaison between physical characteristics and social privileges as this interferes with social sustainability.

Measuring gender equality is difficult to achieve. Indicators do not capture some of its subtleties and the pervasive and frequently hidden nature of gender inequality. However, what is exactly intended to be measured? How? Gender differences and biases are complex and go beyond the mere presence of women in distinct contexts. Therefore, if gender equality is to be assessed using indicators, the assessment should be based on its varied nature and able to capture the tonalities of a plural society, which (according to the workshop participants) is virtually impossible. The report of the EU Expert Group (EU EG) on RRI indicators [12] acknowledges that, while the indicators used for Europe provide a good overview of the participation of women and men in different sectors and at different levels, namely connected with governance and sustainability, they do not seem to provide insight into the cultural issues associated with gender inequality. In the aforementioned report, some of the RRI indicators used were as follows: the percentage of research projects including gender analysis, namely, the percentage of women that were principal investigators on a project, or the percentage of them who were the first authors on research papers; in agriculture or the industry sector, other indicators were used, like the percentage of women in leadership positions or as main investors, or the percentage of them reaching financial support, among others. Thus, the problem is not to find a way to measure equality, but to have insights about the real meaning, gender nature, and impact of equality on social sustainability.

The EU reports about women’s engagement in EU science and research mention that there has been an advancement in the number of women engaged in projects and research networks, mainly since the Horizon 2020 Program implementation. However, and because some strategic gaps to reach gender equality are still remaining, the Horizon Europe Program promotes the following in many projects, entities, and countries: (i) a Gender Equality Plan; (ii) a gender dimension into research and innovation content as a requirement by default (considered an award criterion evaluated under the excellence);
and (iii) an increasing gender balance throughout the program with a target of 50% women in Horizon Europe-related boards, expert groups, and evaluation committees. In this line of thought and goals, a gender balance among research teams is set as a ranking criterion for proposals with the same score [13].

According to the United Nations, Europe has experienced significant progress over the last decades; however, “despite these gains, many challenges remain: discriminatory laws and social norms remain pervasive, women continue to be underrepresented at all levels of political leadership, and 1 in 5 women and girls between the ages of 15 and 49 report experiencing physical or sexual violence by an intimate partner within a 12-month period” [14].

Women still have the need to prove for themselves and for society that they are good professionals, and that they deserve to play their role in both private and public sectors. The issue here is that all social actors (including women) are shaped by social role models that privilege men in general, and especially in leadership positions. There are unconscious biases that affect the way women begin their professional career, how they progress, and the way they manage the obstacles they face. These biases and rooted ideas challenge women more than men when proving credibility and inner professional or entrepreneurship value.

To fight against these difficulties, both the political and social spheres should work side by side with joint efforts, acting in distinct contexts and professions.

3.2. The Obstacles Faced by Women in a Professional Career and Related Strategies

To develop a successful professional career usually demands more efforts and sacrifices from women than from men, due to persistent social inequalities and contrasting gender-based labor valuation and workload [1]. Especially, when talking about top responsibilities, high-level management, or about carrying out innovations, these social scourges play important roles, even under equal legal rights. Despite being pioneers in many fields, women often step aside because of family responsibilities and situations inherent to their specific physical characteristics (when assumed, e.g., maternity). This is aggravated by the lack of effective collaboration of their partners, independent of legislation produced by many countries to allow for and justify men’s family responsibilities. Thus, women are often in especially vulnerable situations throughout their professional life, which frequently prevents them from “dreaming” a normal career progression.

The obstacles that are identified as bringing increased difficulty to women regarding their professional career may vary significantly according to their economic, social, and cultural context. According to their characteristics, these obstacles and constraints may be divided into several categories.

• **Inside the family:** Here, the primary responsibility for dependent care work remains delegated to women. Martinez et al. [15] proved that the main reason why women are underrepresented in leading positions (in academia) is due to maternity and childcare. This is translated to a lack of linearity in the professional career of many women due to family role and responsibilities, including maternity.

Similarly, the work–family conflict appears to be one of the major barriers to women’s advancement to the highest echelons in the public domain. Very frequently, women drop out their positions after a certain stage of their careers, whereas this phenomenon is less usual in men, most likely because it is generally more accepted that women step aside to take care of family and men stay devoted to work (see oint 3 of this article). Although in some rare cases the opposite can occur, often this situation is not accepted by society as a normal choice. Moreover, nowadays and due to varied circumstances, it is more difficult to have the support of other family members (e.g., grandparents), which increases the childcare weight for women.

Not only are women the main undermined party when addressing childcare, but this situation is aggravated by the lack of suitable mechanisms that enable women to properly combine career and family like, for example, social infrastructures (since it is usually expected the women’s role as major educators and caregivers from the early childhood),
schedule flexibility, possibility of reduction of working hours, etc. In the end, there is not enough time or intellectual availability to do everything properly, which could result in poor availability to address all personal and professional duties. According to the workshop attendants (Issue 6 in Table 2), teleworking (as far as necessary and possible) may be, at least, a temporary solution. Managers and younger women frequently have a favorable opinion about the possibilities of teleworking regarding a professional career [16]. However, it may contribute to the crystallization of precarious or less competitive professional activities for women. According to research performed by Ferreira, “Working at a distance created even more invisibility for women who no longer knew how to value themselves and how to network. Women had to further prove their worth in relation to their male counterparts. With the excuse of the pandemic, many companies did not offer promotions or salary increases, and those that did, it was more to men who asked and knew how to value themselves more easily” [17]. To avoid this situation, the workshop attendants proposed Strategy 6 (Table 2); nevertheless, it is key the supportive role of the partner that collaborates in home and childcare to prevent the social image of “she is at home, doing the job, the housekeeping, the childcare, etc.”.

As pointed out in Issue 3 (Table 2), harmonization between family and work exigencies is highly costly for women, and society tends to neglect the mechanisms of social support. Additionally, the employers seldom promote work organization schemes that support the implementation of Strategy 3 (Table 2). The gendered nature of unpaid work affects women throughout the life cycle, since the design of adult work roles are long anticipated and have enduring consequences. Despite that, it seems to remain essential for many women to build a professional life and be independent, even in hard or obscure conditions.

- **Laws/Rules**: Although from a jurisdictional point of view, laws do not unambiguously undermine women in the countries considered in this assessment, the norms of the male organizational culture that define the skills required for advancement in professional careers are in accordance with the male model of leadership. Issue 1 (Table 2) highlights that, against the law, non-professional attributes have an important role when evaluating women’s work, their pathway and, consequently, their possibility to ascend in professional career.

- **Social perception, social acceptation, and work evaluation**:

  In disadvantaged social classes, there is a generalized acceptance of gender inequalities, which makes the obstacles faced by women even greater. In more well-off social classes, there are more favorable conditions, from material, educational, organizational, and symbolic-ideological points of view than there are in subaltern classes in the construction of a more effective citizenship [18], which allows women to claim equal rights and acceptance.

  The education system is traditionally aligned with the prevailing social role models, meaning that girls are commonly “guided” to certain jobs and qualifications (or to avoid others), because they are considered “feminine” or because, in practice, some jobs and positions are “closed” to women in the labor market and recruitment events (even being balanced in regulations and in legal framework). A valid strategy could be to foster that women have their own competences and responsibilities, as opposed to women complementing men’s activities, which undermines women’s visibility and valuation of professional performance. This measure would recognize women’s true contribution to the missions they are involved in (Strategy 2 in Table 2).

  Studies have shown that gender diversity in the workplace increases profitability and creates value [19,20], and that gender-diverse leadership correlates with productivity [21]. Despite this fact, there is a tested unconscious bias in society regarding female competency: both men and women, almost equally, have difficulties in identifying women with leadership positions. An example of this is a study performed by Moss-Racusin et al. [22] where six American universities evaluated two applications for a laboratory manager position with the exact same CV with different names: Jennifer and John. Both male and female evaluators deemed John as more competent, more hirable, offered him more career mentoring, and were willing to pay him more.
To address this bias, we must lay the legal and social foundations so that women are able to accomplish both professional exigencies and family care. Education (formal and informal, on the behalf of national or international institutions) is key to allow all societal actors to give their best, whether male or female, and this implies having support services of a high-quality level and a real exchange in roles among family members. It is frequent for women with successful careers to talk about the compatibility between family life, social life, and a professional career, stating “. . . and in the end it worked!” The question is thus as follows: At what price, and does it happen in common or in exceptional situations?

- **In the public sector:** The work–family conflict is one of the major barriers to career progression for women, so very few achieve top positions in the public domain. It seems to be paramount for career development of women to have successful role models at the parents’ home, serving as guides for future family and professional challenges. It is common that women leave their positions after a certain stage of their career, and society seems to accept it as an inevitable side effect and, particularly as “her choice” about which nothing can be done.

  The increasing use of digital skills and teleworking by women may lead to a paradox: instead of facilitating smooth professional development, it may conduct to a larger gap in social relationships and lead to a stagnation in the career. If teleworking becomes a predominant option for women, this could contribute to the crystallization of precarious or less competitive professional activities due to the need of multitasking familiar and professional duties. To avoid this situation, it is necessary to promote teleworking to the same extent for men and women. This issue has a current exacerbated importance as the COVID-19 pandemic crisis is disproportionately impacting women’s working hours and therefore their careers [23].

- **In the private sector/companies:** Research suggests that a woman’s choice to become an entrepreneur enables her to achieve both practical and strategic gender needs [24]. The question here is not about the value of the entrepreneurial ideas and projects lead by a woman but, mostly, the bias and subjective evaluations that affect the project or idea appreciation when coming from a woman (see Issue 5 in Table 2). One possible strategy to overcome the lower interest to fund ideas led by women could be the use of social support or alternative source of funding for investments, e.g., social payment for family services or crowdfunding. Another potential solution may be the compartmentation of funding according to gender, completely changing the equality principle and the equilibrated chances in the market (see Strategy 5 in Table 2).

  According to the workshop attendants, the social and family context and the specific characteristics of the chain of command in the workplace are among the most important factors that influence women’s empowerment and the success in their professional career. For example, if the context is a small company or a small institution, it becomes easier to surpass the bureaucratic and organizational impediments to career ascension to high-level positions. The family where each one was born and raised may have a huge influence in how women adapt to professional and familiar exigencies. For example, in a family business, the family members need to give a substantial support and, at the same time, push for higher patterns of professional results. It is frequently harder for women than for men to withstand the pressure of being the heritor in a traditional family enterprise. In these cases, there is a great expectation about the professional capability of women, who need to deal, at the same time, with the responsibility of keeping the family peace and running the organization. Career advancement for women may be more difficult in the private sector than in the public one because the regulations and legal norms are not so persuasive or, sometimes, official standards have been left behind. Even the banks, the insurance companies, and the market dealers regard women and men differently in similar situations.

  Apparently, in many countries (except in Nordic ones), companies confuse work efficiency with long stays in the workplace, as they tend to disproportionately reward
employees who stay at work for many extra hours [25]. This occurs in parallel with the non-paid work (housekeeping) mainly performed by women, which prevents them from extending the working hours; cumulatively, this is aggravated by the frequent family or social division of roles and responsibilities at home or in family.

Some companies try to compensate for the male favor that underlies the traditional workplace and working hours. Campbell Soup offers, for example, post-school classes and summer programs for workers’ children; Google offers meal supplements and has included equipment such as laundry facilities in the surroundings of its facilities so that workers can take care of certain domestic routines during working hours; Sony Ericsson and Evernote provide cleaning services at workers’ homes; American Express covers the costs of shipping a maternity bed for mothers who have to travel while breastfeeding. However, companies that make women a priority by taking their needs into account are exceptions. The Apple headquarters, built in 2017, was considered the best office space in the world with a medical and dental clinic and a luxurious SPA; however, there was no nursery within their facilities [26].

Even greater difficulties are faced by women in rural areas. According to Copa-Cogeca [27] “women are at a further disadvantage when it comes to equality between their urban counterparts. Although women farmers and women working in rural areas face similar constraints to women in urban areas, they are also confronted with other difficulties due to their specificities” like the high volume of non-paid work and legal rights. This organization considers that “some European women ( . . . ) do not have access to legal recognition of their part-time or full-time work on a farm. In some countries, family members working on farms do not have social protection or legal recognition and are therefore not covered for maternity leave or against accidents in the workplace, to name a few examples”.

- **The implementation of a quota system:** Quota systems aim at ensuring that women constitute a certain number or percentage of the members of a body, of a public institution, or of a government (e.g., political affairs or top positions in public organizations) beyond their quality as professionals and their competencies. Quotas are not just about access to decision-making places, they are also to strive for the quality of the decisions taken, to recognize that women make different contributions from men, and that joint decision-making processes are necessarily more comprehensive and therefore more inclusive. However, the best argument in support for quotas is that a gender balance in management and leadership jobs will change the models of governance towards diversity, complementarity, and cooperation—in the end creating positive feedback on women’s empowerment and favoring societal changes. Chen [28] states that “The core idea behind the gender quota systems is to recruit women into political positions and to ensure that women are not isolated ( . . . ). The incorporation of women’s concerns in decision-making would, thereby, improve the nature of the public sphere. In addition, women’s representation can also have an indirect influence by increasing men’s attention to policies concerning women ( . . . )”

How can the quota system be addressed to contribute to social sustainability? According to Correia [29], female quotas are important for boosting parity but should be seen as a temporary measure; they provide an artificial ‘input’ for change and can be used to create a minimum level of equality, leaving behind the meritocracy. Like this, quotas could be counterproductive, contributing to establishing “political” choices for a professional position.

Referencing Issue 4 (Table 2), there is no consensus about quotas, but the workshop attendants agreed that quotas should be considered as a starting point for women’s empowerment and, thus, for social sustainability. A balanced view about the quota system should support and push for women’s presence in top positions having, at the same time, the objective evaluation of skills and competencies as a basic condition to ascend in professional career (for both men and women).
From an ethic point of view, we need to ask: what kind of world do we want, or dream of? Gender issues should not be addressed by just counting women in a job. This is a weak response towards the objectives of RRI, where social actors need to be particularly responsive and reflexive.

4. Women in Academia and the RRI Principles

The attendants to the workshop agreed that women in academia, and its relationship with RRI, deserve particular attention in the frame of this article. Female researchers are challenged in every aspect of their scientific career by biases and barriers [30]. Regarding the research footprint, women publish less articles than men [31], and articles with women in first, last, and corresponding authorship positions are less quoted than those with men in these positions [32]. As for funding sources, a study performed in the Netherlands found that women are less successful than men when applying for public research funding [33]. Regarding employment, women have been found to rate lower than men when applying with an identical curriculum vitae (CV) for a job position [22], and to be less employed in laboratories led by high-achieving male researchers [34]. This evidence led to the conclusion that gender discrimination in science is a deep-rooted and self-perpetuating issue.

Several sources have pointed out the worrying global gender gap in academia by which women are severely under-represented in this sector. According to the European University Institute [35], in some countries, women in the academic professions are equal or higher in number to men—Portugal is one such case. However, other countries are far from reaching this goal. Japan’s Fourth Basic Plan for Gender Equality [36] states the importance of promoting an environment in which female researchers can perform their job in the best possible conditions. The plan, released in 2015, also encourages women’s involvement in research, while acknowledging that their participation has been inadequate thus far. A recent report on gender in the research landscape published in 2020 shows that disparities in Japan still exist: only 15.2% of researchers were women in the 2014–2018 period, proving that more effort is needed to address issues that cut across diversity as well as inclusion [31]. Concerning the positions occupied by female academics, it may be observed that women are usually concentrated in the lowest positions of the academic career ladder. This is a recurrent and cross-country pattern, in the higher positions of the academic ladder, women fail to be well represented even among those specialties considered more appropriated to women, like humanities. This phenomenon is known as the “glass ceiling” for women: an invisible obstacle that prevents women from advancing to leadership positions. In agreement, attendants to the workshop confirmed that in their institutions there is a notable under-representation of women in managing and leadership positions.

Universities can, nevertheless, provide a good example of gender-neutral policies that ultimately lead to discrimination against women. University professors in the so-called tenureregime have seven years after their doctorate to reach a place on the board, otherwise they are dismissed. In general, this system stimulates creativity and promotes a challenging environment in which discovery and scholarship flourish. Universities without a TENURE system tend to become a corporation formed by part-time and contingent employees who can be hired or fired at the will of the full-time corporate administrators. However, this system harms women who want to have children because the period between the completion of the doctorate and entry into the framework corresponds to the years of greater fertility for women. The fact that the training period in academia is longer than most professions and it is performed in a highly competitive environment, leads to an overlapping of the professional stabilization stage and the fertile period of women. In Europe, the TENURE system corresponds to a permanent position, which implies that academics have the guarantee of maintaining their job, dismissal only being possible with a “just cause.” However, job stabilization varies among countries [37]. This creates a protective environment for academics who are mothers, but many of them would have fallen by the wayside somewhere else. On the other hand, in many US universities,
this TENURE system is highly criticized since it creates a pseudo-market environment within public universities [38] and also because the new members look for more flexible schedules [39]. The TENURE system, for all its faults, must be promoted and made more flexible to level the playing field and suit the modern realities of both male and female academics’ lives. In the end, the system must adapt itself to the university conditions and to the demands of society, integrating the stimulus and the critical positions from its direct users, paying special attention to women’s particularities. Here, we return to the RRI policies and its importance for social sustainability as an ambitious challenge driven by the demands of the general public and built on the engagement of all societal actors (where women are an important part) during the whole process [40].

Having children requires that someone in the couple makes the family a priority over her or his job, and that person usually is the woman in heterosexual couples. Mason et al. [41] analyzed data collected from 10 years in the US, and they found that the partners of female researchers most frequently had full-time jobs, whereas only around 50% of male researchers had partners that worked full time. They also found that women with young children have 35% less probabilities of getting a permanent job in academia compared to men in the same situation, and 33% less than women without children. However, women without children have the same probability of getting a permanent job than men without children. Similarly, Cech and Blair–Loy [42] published a research study performed with 4000 researchers conducted over 8 years in the US that showed that almost 50% of women drop out of academia after having their first child. Some men drop out of the academia as well: 16% of men and 23% of fathers drop out, which is a similar number to woman without children leaving academia (24%). All this scientific evidence highlights that there is a reproductive cost, and that this cost falls mainly on women. Universities have done little to overcome this problem and those that did something did it in a neutral way, giving another year to anyone who had children in that period. This measure exacerbates the problem because it equally protects mothers and fathers, even though there is evidence that supports that the consequences taken on by having children for women and men are not comparable [42,43].

Regarding maternity in academia, there are certain tasks exclusively related to women such as pregnancy, giving birth, breast feeding, and most early childcare, which requires huge amounts of time and energy. All this leads to mothers in academia having some years of lower scientific productivity around their 30s–40s. It should not be a big issue that in 40 years of scientific career a mother would have low productivity for 3 or 4 years. However, the issue here is that, often, mothers do not get to have these long careers because scientists have to face constant evaluations, especially during the fertility period of women, and if they are not sufficiently competitive, they will not be able to keep their positions. Thus, when a female researcher decides she wants to become a mother, she will probably have to do it during the most competitive, but also most vulnerable, time of her scientific career. The cost of being a mother in academia is assumed during a limited period, but it has catastrophic consequences in the career of many women because it happens in the early career phase. Certainly, similar breaks happening during mid-career stages would be more harmless. Dropping out during this critical period entails that coming back into academia (if possible), they would have to start all over again, losing any upward mobility achieved during the pre-maternity leave. Thus, 3–4 years maternity leave could set them back 5–10 years in career years in comparison with their male counterparts, who would be able to continue their upward trajectory, leading to a damaging disconnection between women’s age and career stage. On the top of that, funding proposals never take into consideration the CV gap due to motherhood, which again puts women in a disadvantaged situation compared with men. According to the Organization for Economic Co-operation and Development (OECD), “Women are disproportionately affected by these conditions (family conditions) and many “drop out” during the transition from early to mid-career. Ultimately the quality of science is being imperiled by a “publish or perish” culture, in which risk aversion hinders novel research, and research integrity and rigour
are of diminishing importance in the face of excessive competition” [44]. This organization also highlighted several measures as a potential driving force of change: “Recruitment processes should promote diversity in the research workforce and offer clear and equal opportunities for women and under-represented groups. Institutions need to address “academic inbreeding” and promote diversity through targeted policies that address the barriers faced by under-represented groups in research. Progress should be monitored by publishing research workforce data disaggregated by specific population groups of interest.” [44].

Less recognition and respect from not just funding agencies, but also colleagues and students, is another barrier to female academics. Hence, they must work harder to get the same results as their male counterparts. In historically male-dominated environments such as science, researchers are likely to value men’s contributions while discounting women’s opinions regardless of actual expertise. Research points out that individuals considered as experts by other team members, regardless of their actual expertise, have a prevalent role in decision making, more opportunities to perform, and are more likely to be treated as informal leaders in teams [45–47]. The social role theory is particularly useful for understanding the effects of gender on expertise recognition. According to this theory, culturally shared ideas regarding the suitable roles and skills ascribed to men and women in society have important effects in the workplace [47–50]. Women occupying roles or displaying skills culturally ascribed to men tend to be undervalued and discounted by their work colleagues [48,49]. From an early stage of the education system, there is a tangible social pressure to guide the job choices for women (see Issue 2 in Table 2). It is widely extended in society that female characteristics are not in accordance with some of the professional exigencies related to objectivity or the intellectual capacity for mathematics or computing. This fact is frequently seen in science and in science management: even though women are well represented and evaluated until the medium stage of their careers, this changes drastically when arriving to leadership positions—not because of a lack in skills, but because there are interruptions in the professional trajectory, due to motherhood, home, child or elderly care, or other related needs. The male partner seldom equally assumes these kinds of duties due to a general lack of commitment of men with domestic affairs and parenting. This differential gender-based investment between family and professional life is assumed not only by men, but by most social actors. On the top of that, there is a lack of female role models regarding leading science management. Women in top positions are frequently subjected to a colleague’s supervision and are expected to make mistakes or even abandon the job position. This phenomenon is related to the aforementioned male culture, where women are fighting to be equal to men instead of being valued for their own individual characteristics and skills, which would prevent subordination relationships (in line with Strategy 1 in Table 2).

As a result of all these facts and cultural scourge, and even in countries deemed as open-minded cultures and offering equal opportunities to researchers regardless their gender, e.g., Finland, the OECD points out that “Lengthy mobility periods for women, especially early career researchers, are often ruled out, not because women are not interested in them but due to family commitments; and women are underrepresented in tenure track positions, particularly when recruitment is based on invitations” [44].

5. Reflections about Gender and Equality

Structural stigma rooted in patriarchy is tied to social identities based on gender and has historically and contemporaneously marginalized women from society, with an impact in its sustainability and equilibrium. This ideology permeates everyday life through the institutions, policies, and systems that perpetuate it, and can either be assumed or rejected by the communities subjected to exclusion [51,52]. Gender-based structural stigma leads to social hierarchies based on differences in terms of sex, which are reflected in culturally ascribed stereotypes. These dominant cultural norms translate to women facing a different reality to that perceived by men, as they are generally subjected to different experiences
and constraints. This phenomenon leads to gender role attitudes [53], which translate into
gender differences in society in terms of specific characteristics related to femininity and
masculinity. As an example, there is evidence that women show higher levels of social
sensitivity, and teams with a high feminine proportion increase the collective intelligence
in scientific teamwork [54] and cooperation in natural resource conservation [55]. The
negative consequence of this differential of gender-based characteristics is that features
associated to women are frequently undervalued in society. Therefore, it cannot be assumed
that men and women are equal. Using a metaphor of a plant, the root and shoot perform
different roles, but they complement each other for the plant unity. Similarly, in human
societies, men and women present differences, but it is important to protect diversity, which
will support social sustainability. However, this is different from accepting subalternation
of women by men.

To avoid gender-related issues that undermine women’s professional success, particu-
lar measures that are specific for women need to be applied. The challenge is to create a
fair, equal, and balanced environment that allows women to develop a successful career
despite cultural and social constraints and biases. To achieve this goal and contribute to
social sustainability, a comprehensive set of bold actions needs to be implemented:

1. Evaluation of careers shall be done based only on competences, putting in blind
   anything connected to gender.
2. A package of measures to raise awareness in panels of evaluators, so that children or
   pregnancy are considered as a positive asset for career prospective.
3. Health and family care shall be a positive valuable issue in curriculum vitae, as well as
   volunteer work or other citizenship issues.
4. Recruiting programs specifically for women that promote labor reinsertion following
   total or partial disengagement from work due to maternity should be available. A
   robust example in academia at EU level is the Career Restart (CAR) Panel—Marie
   Sklodowska-Curie Action.
5. A package of measures to promote family reconciliation: avoid working during
   evenings whenever possible, promote schedule flexibility, promote the possibility
   of a reduction of working hours, “controlled use” of teleworking, promote online
   meetings and conferences, and many other possibilities.
6. Deployment of some potential game changer measures, such as prioritizing the job
   stabilization of women vs. men, or initiatives such as successful women acting as role
   models and ambassadors for the coming generations of working women (see, e.g.,
   the list of 100 influential and inspiring women from around the world, selected by
   the BBC).
7. To promote work on goal-driven basis instead of strict timetables to provide a much
   more flexible environment that would allow for fairer women/men competition”.

To contribute to this end, some examples of support to the professional career in
science and in research have emerged. One of them is ACT [56]: a Horizon 2020 project that
seeks to advance gender equality at universities, research centers, and research funding
organizations, promoting communities of practice across Europe, with a shared domain of
interest in advancing the implementation of the European research area for gender goals.

As a conclusion of both the workshop and this manuscript, one question remains:
does this movement in the direction of equal opportunities for the self-development of
inner capabilities and resources (mostly for women), across society and sectors, occur in a
sustainable manner? Revisiting the quotas issue here, the particularities of the private and
public sector and the social representations of men and women’ roles (beyond economic
and educational constraints) all seem to be insufficient to allow for a smooth professional
career for women. As a primary societal aim, all social actors must acknowledge women as
key actors in creating and contributing to social sustainability, working together towards
an environment where women can develop leadership roles. Additionally, they must be
able to progress freely in their professional life, having as a guideline their competence and
professional interests.

Funding: This article is part of a project that has received funding from the European Union’s Horizon 2020 research and innovation program grant agreement No 952051, and under the Marie Skłodowska-Curie grant agreement No 793965. The APC was funded by the European Union’s Horizon 2020 research and innovation program grant agreement No 952051.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: We are grateful to all attendants to the workshop “Women Empowerment, Responsible Research and Innovation” organized in the framework of the research project “SOILdarity”.

Conflicts of Interest: The authors declare no conflict of interest.

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