An analysis of the gender perspective in national research institutes and academia.

Projects funded by UEFISCDI through the National Plan for Research, Development and Innovation 2015-2021

Authors:
Elena Simion
Raluca Coșcodaru
Anamaria Fărcășanu-Răvar
Oana lonescu
Alexandru Dinu
Marius Mitroi

Document editing and design:
Adrian Bulz

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## Introduction

CALIPER project's vision is to enhance the gender balance in STEM fields and promote a greater engagement of women researchers with research and innovation, contributing to the ERA priorities on Gender Equality and stimulating a dialogue and collaboration between academia, public authorities, professionals and industry players in order to tackle gender inequalities across the research- transfer-to-market chain. UEFISCDI shares the same vision and it is one of the nine organizations involved in the project that are committed to create a framework for promising practices inside the organization and outside its boundaries that would enable the creation of equal opportunities for all its employees and collaborators.

The Romanian academic and research landscape is formed mostly of national research institutes and public universities. These are the main pillars of innovation, knowledge dissemination and discovery. Analyzing these entities from a gender perspective uncovers interesting insights into their operational dynamics and leadership narratives. By juxtaposing the gender trends within these two entities, we gain a holistic understanding of the gender landscape in national-level academia and research, while also identifying unique characteristics and patterns specific to each. UEFISCDI, the national agency that funds innovation and research in Romania, is the institution that manages part of the National Plan for Research, Development and Innovation - public funds dedicated to research projects. UEFISCDI launches calls of proposals on various topics on behalf of the Ministry of Research, Innovation and Digitization and evaluates them on criteria established beforehand by the Ministry.

UEFISCDI is committed to promoting gender equality principles and increasing women participation in STEM. In order to propose changes to the funding programmes and subsequent calls for projects (that would later on have impact on increasing women participation), an analysis of the gender perspective in research content was necessary. The development of this analysis was further inspired by awareness activities carried out in the CALIPER project and by interactions with academia and research organizations. The analysis is the first of this kind to be conducted in Romania and paves the way for evidence-based policy making.

The analysis was carried out by UEFISCDI and is an integral part of the actions envisaged for 2021-2023 in the organization's Gender Equality Plan, developed as part of the CALIPER project. The purpose of this analysis is to determine if and how the gender perspective was integrated in the research content of the projects funded by UEFISCDI through the National Plan for Research, Development and Innovation between 2015-2021. Such an analysis is essential in today's world, where gender equality remains a top priority across all professional fields. The results provide an insight into the progression of gender representation over the years and its potential impact on the success rate of research project proposals.

The CALIPER project provided the methodological framework and content support for this analysis and helped identify and collect information related to gender equality in order to transfer the knowledge beyond academia.

## Methodology

The main objective of the CALIPER Project is to make research organizations more gender equal by increasing the number of women researchers in STEM, improving their careers prospects and integrating a gender dimension in research. Each partner in the project aims to reach this goal by addressing specific challenges in its national and/or regional context and creating opportunities for collaboration and raising awareness.

The analysis of projects funded by the UEFISCDI through the National Plan for Research, Development and Innovation is aimed at investigating how the gender perspective was integrated in the calls for projects rolled out in previous years. The analysis targeted projects financed under RDI programmes between 2015 and 2021, implemented either by public research universities or by public universities; both social sciences as well as technologyrelated projects were included in the sample.
None of the calls for projects rolled out in the selected timeframe (2015-2021) required the mandatory integration of gender in the research content. However, it was necessary that all project teams ensure gender equality as much as possible and avoid any kind of discrimination.

Overall, the research team looked into the percentage of project managers holding a PhD , the share of project teams lead by women versus the share led by men, the share of women team members versus men team members, and whether the requirement of having a balanced distribution of men and women in project teams was fulfilled.

The analysis used secondary data - mostly quantitative, but also qualitative - from UEFISCDI's internal database on projects funded under the National Plan for RDI in the period 2015 2021. A number of 1033 projects submitted by national research institutes - funded through 62 calls for projects - was reviewed. The data was collected from the documents submitted with the project proposals and strong measures were taken so as not to disclose any information related to the location or identity of the project directors and team members.

The first part of the analysis is dedicated to projects submitted and implemented by research institutes and the second one to projects submitted and implemented by universities. Each section starts with an overview of the main findings, then dives deeper into the content: distribution of project directors based on their gender, distribution of project team members based on their gender, and the number and share of PhD holders among project directors. Based on the results, conclusions and recommendations for further research were drawn.

The findings paint a broad picture of the Romanian research landscape and can be used as a starting point to develop further analysis and to propose measures that would enable a more inclusive and gender-balanced framework for futures programmes.

## 1. Analysis of projects submitted by Romanian national research institutes

62 competitions / calls for projects were organized between 2015 and 2021 and a total of 1033 projects submitted by public research institutes received funding during this period. The number of funded projects registered significant fluctuations through the years, depending on the number of calls for projects launched in the respective year and on the calls' target group. Thus, more than 200 projects were contracted in 2016 and 2019, while the number of projects was lower in the years in which less than 10 calls for projects were launched.
Table 1 - Number of competitions organized and projects funded between 2015-2021

| Year | Number of <br> competitions | Number of funded projects | Average no. of projects <br> per competition |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 0 1 5}$ | 2 | 107 | 53.50 |
| $\mathbf{2 0 1 6}$ | 18 | 212 | 11.78 |
| $\mathbf{2 0 1 7}$ | 11 | 123 | 11.18 |
| $\mathbf{2 0 1 8}$ | 6 | 82 | 13.67 |
| $\mathbf{2 0 1 9}$ | 10 | 254 | 25.40 |
| $\mathbf{2 0 2 0}$ | 7 | 85 | 12.14 |
| $\mathbf{2 0 2 1}$ | 8 | 170 | 21.25 |
| TOTAL | 62 | 1033 | 16.66 |

The analysis of projects submitted by the Romanian National Research Institutes throws light on the gender balance, both among project directors as well as in project teams, and investigates the degree to which project directors' education (i.e. holding a PhD) plays a relevant role in the funding process. This analysis seeks to provide a clearer understanding of the interplay of these factors (gender and education) in determining projects' success.

### 1.1. Distribution of project directors and research team members based on their gender

## Distribution of project directors based on their gender

The data shows that the distribution of project directors in terms of gender has been relatively balanced over time. While the number and share of men project directors slightly exceeded that of women directors in 2015 and 2016, the situation was reversed in the period 20172019. Approximately $63 \%$ of the projects that received funding in 2019 and $59 \%$ in 2020 were led by women; this trend is indicative of an organic evolution of gender balance in leadership roles.

Overall, there is a slightly higher number of women project directors, which indicates that women are generally not discriminated against when it comes to taking on leadership positions in research projects.

Figure 1 - Evolution of the number of men and women leading research projects funded under the National Plan for RDI in 2015-2021 - public research institutes


The relatively balanced distribution of men vs. women directors suggests that gender does not seem to be a significant determinant of a proposal's success. On average, $53 \%$ of all projects funded under the National Plan for RDI in 2015-2021 had been led by women directors.

Table 2 - Distribution of project directors based on gender (\%) - public research institutes

| Year | Projects led by MEN (\%) | Projects led by WOMEN (\%) |
| :--- | :---: | :---: |
| 2015 | $51 \%$ | $49 \%$ |
| 2016 | $52 \%$ | $48 \%$ |
| 2017 | $48 \%$ | $52 \%$ |
| 2018 | $37 \%$ | $63 \%$ |
| 2019 | $41 \%$ | $59 \%$ |
| 2020 | $60 \%$ | $40 \%$ |
| 2021 | $42 \%$ | $58 \%$ |
| Average \% | $47 \%$ | $53 \%$ |

Figure 2 - Distribution of project directors based on gender (\%) - public research institutes


Distribution of project team members based on their gender
A total number of 12.300 persons were involved as team members in the implementation of the 1033 projects funded between 2015 and 2021. The data in Table 3 shows that the distribution of men and women was generally balanced, with the share of women slightly higher (with up to $10 \%$ ) than that of men. Even in projects led by men, over $50 \%$ of team members are women, suggesting that inclusive team dynamics prevail.

For 56 of members in research project teams, no data regarding their gender was available.
Table 3 - Gender distribution of team members in projects funded between 2015-2021 - public research institutes
$\left.\begin{array}{|c|c|c|c|c|c|c}\hline \text { Year } & \begin{array}{c}\text { Team } \\ \text { members } \\ \text { (MEN) }\end{array} & \begin{array}{c}\text { Team } \\ \text { members } \\ \text { (WOMEN) }\end{array} & \begin{array}{c}\text { \% of } \\ \text { men in } \\ \text { project } \\ \text { teams }\end{array} & \begin{array}{c}\text { \% of } \\ \text { women } \\ \text { in } \\ \text { project }\end{array} & \begin{array}{c}\text { No. of } \\ \text { peams }\end{array} & \begin{array}{c}\text { Total no. of for } \\ \text { which data is } \\ \text { not available }\end{array}\end{array} \begin{array}{c}\text { team } \\ \text { members }\end{array}\right]$

Figure 3 - Distribution of project team members based on gender (\%) - public research institutes


## Key Findings:

1. Gender distribution among project directors from research institutes is generally balanced, with some years even witnessing a women majority. This indicates that there is no significant bias towards any gender.
2. Research institutes maintain a balanced gender representation in both directorship roles (project directors) as well as execution roles (researchers in project teams).
3. Regardless of the gender of the project director, team compositions is generally balanced, with the share of women in project teams slightly exceeding that of men.

### 1.2. Number and share of PhD holders among project directors

The world of academic research often places considerable emphasis on qualifications and expertise. In research institutes, this becomes evident when assessing the educational backgrounds of those at the helm of projects. Holding a PhD, representing advanced research and understanding in a given field, seems to be a significant indicator in this context.

A deeper dive into the data reveals that over two thirds (68\%) of project directors hold a PhD. The share of PhD holders fluctuated significantly over the years - over $90 \%$ of project directors were PhD holders in 2015, 2020 and 2021, while only $6 \%$ of all project directors held PhD titles in 2018 and $34 \%$ in 2017. This fluctuation is due to the nature of the projects financed under the competitions rolled out in 2015-2021; thus, the share of PhD holders is naturally higher in the case of calls for fundamental research projects and lower in the case of projects aiming to develop practical solutions, products or services.

However, the relatively high average share of project directors holding a PhD title (68\%) underscores the value that research institutes place on in-depth research expertise.

| Year | Total no. of <br> projects | project directors <br> with PhD | project directors <br> without PhD | project directors <br> with PhD (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 0 1 5}$ | 107 | 106 | 1 | $99 \%$ |
| $\mathbf{2 0 1 6}$ | 212 | 140 | 72 | $66 \%$ |
| $\mathbf{2 0 1 7}$ | 123 | 42 | 81 | $34 \%$ |
| $\mathbf{2 0 1 8}$ | 82 | 5 | 77 | $6 \%$ |
| $\mathbf{2 0 1 9}$ | 254 | 158 | 96 | $62 \%$ |
| $\mathbf{2 0 2 0}$ | 85 | 79 | 6 | $93 \%$ |
| $\mathbf{2 0 2 1}$ | 170 | 169 | 1 | $99 \%$ |
| AVERAGE |  |  |  | $68 \%$ |

Figure 4 - The share of project directors holding a PhD title, leading projects financed in the period 2015-2021 - public research institutes


It is also worth noting that, in what regards the distribution of PhD holders based on gender, numbers are quite balanced. Overall, of the total number of directors (of projects financed between 2015 and 2021) holding a PhD ( 699 persons), $49.6 \%$ are men, while $50.4 \%$ are women. However, some fluctuations have occurred over the years, with the number of men PhD holders exceeding the number of women in the period 2015-2017. However, the situation has since been reversed. In fact, in 2021, the number of women PhD holders was $25 \%$ higher than the number of men PhD holders.

Table 5 - Distribution of PhD and non-PhD project directors based on gender (absolute numbers) - public research institutes

| Year | Total no. of <br> projects | project directors <br> with PhD- MEN | project directors <br> with <br> WOMEN | project <br> directors <br> without <br> MEND - | project <br> directors <br> without PhD - <br> WOMEN |
| :--- | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 0 1 5}$ | 107 | 55 | 51 | 0 | 1 |
| $\mathbf{2 0 1 6}$ | 212 | 79 | 61 | 32 | 40 |
| $\mathbf{2 0 1 7}$ | 123 | 26 | 16 | 33 | 48 |
| $\mathbf{2 0 1 8}$ | 82 | 1 | 4 | 29 | 48 |
| $\mathbf{2 0 1 9}$ | 254 | 67 | 91 | 37 | 59 |
| $\mathbf{2 0 2 0}$ | 85 | 47 | 32 | 4 | 2 |
| $\mathbf{2 0 2 1}$ | 170 | 72 | 97 | 0 | 1 |

Table 6 - Distribution of PhD and non-PhD project directors based on gender (\%) - public research institutes

| Year | Total no. of <br> projects | project directors <br> with PhD- MEN | project directors <br> with <br> WOMEN | project <br> directors <br> without PhD - <br> MEN | project <br> directors <br> without PhD - <br> WOMEN |
| :--- | :---: | :---: | :---: | :---: | :---: | :--- |
| $\mathbf{2 0 1 5}$ | 107 | $51.40 \%$ | $47.66 \%$ | $0.00 \%$ | $0.93 \%$ |
| $\mathbf{2 0 1 6}$ | 212 | $37.26 \%$ | $28.77 \%$ | $15.09 \%$ | $18.87 \%$ |
| $\mathbf{2 0 1 7}$ | 123 | $21.14 \%$ | $13.01 \%$ | $26.83 \%$ | $39.02 \%$ |
| $\mathbf{2 0 1 8}$ | 82 | $1.22 \%$ | $4.88 \%$ | $35.37 \%$ | $58.54 \%$ |
| $\mathbf{2 0 1 9}$ | 254 | $26.38 \%$ | $35.83 \%$ | $14.57 \%$ | $23.23 \%$ |
| $\mathbf{2 0 2 0}$ | 85 | $55.29 \%$ | $37.65 \%$ | $4.71 \%$ | $2.35 \%$ |
| $\mathbf{2 0 2 1}$ | 170 | $42.35 \%$ | $57.06 \%$ | $0.00 \%$ | $0.59 \%$ |

Figure 5 - Distribution of projects directors with PhD in the period 2015-2021, based on their gender (absolute numbers) public research institutes

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Key Findings:

1. The overwhelming majority of successful project directors at research institutes are PhD holders, reinforcing the institution's emphasis on rigorous academic grounding.
2. Overall, there is a balanced gender distribution of PhD holder project directors (49.6\% men and 50.4\% women), although the gender ratio has varied through the years.

### 1.3. Conclusions

Overall, the distribution of project directors and project team members based on their gender is quite balanced. On average, $53 \%$ of projects financed in the period 2015-2021 were led by women project directors, while $47 \%$ were led by men. Moreover, $54 \%$ of all project team members are women. This suggests that women are well represented in research teams, both in leadership as well as in operational roles. Moreover, historical data suggests that the gender distribution has been consistent over the years.

The high share of project directors with a PhD (68\%) reinforces the value of advanced academic credentials in the realm of research. It's clear that having a PhD is not just a title but a testament to the depth and rigor of one's research capabilities.
Recommendations for future actions:

1. Mentorship Programmes: Establish mentorship programmes to help aspiring researchers (especially those without PhDs) navigate the complex world of research proposal writing and project leadership.
2. Flexible Funding: Consider implementing more flexible funding models, accommodating both large-scale projects and smaller, innovative initiatives.
3. Transparency in Funding: Increase transparency around funding decisions to ensure that all potential applicants understand what's valued and how decisions are made.
4. Skill Workshops: Organize workshops focused on proposal writing, research methodologies, and interdisciplinary collaborations, enhancing the overall quality of submissions.
5. Regular Feedback: Provide regular feedback to unsuccessful proposals, ensuring researchers understand areas of improvement, fostering a culture of continuous learning.
6. Broaden Research Domains: Continuously assess and potentially expand the range of research domains, ensuring the institution remains at the forefront of global research trends.
7. Collaborative Platforms: Create platforms that encourage collaborations between researchers, fostering interdisciplinary research and innovative project ideas.
8. Annual Reviews: Conduct annual reviews of competition dynamics, participation rates, and success factors to continuously adapt and refine the research landscape.
9. Public Engagement: Engage the public and the broader research community in understanding the importance and impact of the research being conducted, fostering a more supportive and understanding environment.

## 2. Analysis of projects submitted by public universities

Public universities play a pivotal role in fostering a research culture that drives innovation and exploration in various domains. The analysed data provides a comprehensive insight into the dynamics of project leadership, gender distribution and academic qualifications within the project teams in higher education institutions.
72 competitions / calls for projects were organized between 2015 and 2021 and a total of 3689 projects received funding.

Table 7 - Number of competitions organized and projects funded between 2015-2021 - public universities

| Year | Number of competitions | Number of funded projects | Average no. of projects <br> per competition |
| :--- | :---: | :---: | :---: | :---: |
| $\mathbf{2 0 1 5}$ | $\mathbf{4}$ | 145 | 36.25 |
| $\mathbf{2 0 1 6}$ | 25 | 727 | 29.08 |
| $\mathbf{2 0 1 7}$ | 10 | 674 | 67.40 |
| $\mathbf{2 0 1 8}$ | 7 | 650 | 92.86 |
| $\mathbf{2 0 1 9}$ | 10 | 948 | 94.80 |
| $\mathbf{2 0 2 0}$ | 7 | 225 | 32.14 |
| $\mathbf{2 0 2 1}$ | 9 | 320 | 35.56 |
| TOTAL | $\mathbf{7 2}$ | $\mathbf{3 6 8 9}$ | $\mathbf{5 1 . 2 4}$ |

The average number of projects funded per competition is much higher in the case of public universities ( 51.24 projects) than in the case of public research institutes ( 16.66 projects).

### 2.1. Distribution of project directors and research team members based on their gender

## Distribution of project directors based on their gender

From 2015 to 2021, the gender distribution among project directors registered some variations. While the number of projects led by men slightly exceeded that of projects led by women in the period 2015-2016, the trend was reversed in 2017. In 2017, 2018 and 2019, the number of women project directors exceeded that of men project directors with 15-25\%. However, in 2020, the number of men in project director roles (127) one again exceeded that of women (90), while in 2021 there was a relative gender parity ( 158 women and 161 men).

Overall, it seems that women are encouraged to take on leadership position along men in conducting successful projects. On average, $51 \%$ of all projects funded under the National Plan for RDI in 2015-2021 and submitted/implemented by public universities had been led by women directors.

Figure 6 - Evolution of the number of men and women leading research projects funded under the National Plan for RDI in 2015-2021 - public universities


Figure 7 - Distribution of project directors based on gender (\%) - public research institutes


Table 8 - Distribution of project directors based on gender (\%) - public universities

| Year | Projects led by MEN (\%) | Projects led by WOMEN (\%) |
| :--- | :---: | :---: |
| 2015 | $56 \%$ | $44 \%$ |
| 2016 | $58 \%$ | $42 \%$ |
| 2017 | $42 \%$ | $58 \%$ |
| 2018 | $43 \%$ | $57 \%$ |
| 2019 | $45 \%$ | $55 \%$ |
| 2020 | $59 \%$ | $41 \%$ |
| 2021 | $50 \%$ | $50 \%$ |
| Average \% | $49 \%$ | $51 \%$ |

Distribution of project team members based on their gender
A total number of 18.564 persons have been registered as team members in the projects funded between 2015 and 2021. For 161 of them no data regarding gender was available. The share of men and women in project team is almost equal, with the number of women exceeding that of men with less than one per cent.

Table 9 - Gender distribution of team members in projects funded between 2015-2021 - public universities

| Year | Team members (MEN) | Team members (WOMEN) | \% of men in project teams | \% of women in project teams | No. of persons for which data is not available | Total no. of team members |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2015 | 628 | 811 | 44\% | 56\% | 10 | 1449 |
| 2016 | 3478 | 3366 | 51\% | 49\% | 98 | 6942 |
| 2017 | 2487 | 2472 | 50\% | 50\% | 29 | 4988 |
| 2018 | 642 | 692 | 48\% | 52\% | 0 | 1334 |
| 2019 | 1826 | 1791 | 50\% | 50\% | 24 | 3641 |
| 2020 | 67 | 46 | 59\% | 41\% | 0 | 113 |
| 2021 | 49 | 48 | 51\% | 49\% | 0 | 97 |
| TOTAL | 9177 | 9226 | 50\% | 50\% | 161 | 18564 |

Figure 8 - Distribution of project team members based on gender (\%) - public research institutes


## Key Findings:

Gender distribution in both leadership and operational roles is fairly balanced, with women slightly outnumbering men. This points out to the fact that gender does not seem to be a significant determinant of a proposal's chances of being funded.

### 2.2. Number and share of PhD holders among project directors

Advanced academic qualifications, notably a PhD, is usually considered a significant indicator of a research team's capacity to implement a successful project. However, depending on the type of competitions launched, the share of project directors with PhD registered significant variations over the years.
Table 10 - Distribution of PhD and non-PhD project directors - public research institutes

| Year | Total no. of <br> projects | project directors with <br> PhD | project directors <br> without PhD | project directors <br> with PhD (\%) |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 0 1 5}$ | 145 | 145 | 0 | $100 \%$ |
| $\mathbf{2 0 1 6}$ | 721 | 400 | 321 | $55 \%$ |
| $\mathbf{2 0 1 7}$ | 673 | 37 | 636 | $5 \%$ |
| $\mathbf{2 0 1 8}$ | 649 | 26 | 623 | $4 \%$ |
| $\mathbf{2 0 1 9}$ | 946 | 606 | 340 | $64 \%$ |
| $\mathbf{2 0 2 0}$ | 217 | 216 | 1 | $100 \%$ |
| $\mathbf{2 0 2 1}$ | 319 | 307 |  |  |
| AVERAGE |  |  |  | $96 \%$ |

Figure 9 - The share of project directors holding a PhD title, leading projects financed in the period 2015-2021 - public universities


The share of project directors holding a PhD title showcased a similar evolution as in the case of public research institutes. Thus, while the share was very high for competitions launched in 2015, it decreased to $55 \%$ in 2016 and was lower than $5 \%$ in 2017 and 2018. The trend reversed starting from 2019. The fluctuations are correlated with the type of projects financed throughout the year, with competitions rolled out in 2017 and 2018 being more focused on the development of practical solutions (products/services) to meet the needs of public and private organisations.

As far as the distribution of PhD holders based on their gender is concerned, data shows that the average share of project directors with PhD title (33\%) exceeds that of women directors with PhD title (28\%).

Table 11 - Distribution of PhD and non-PhD project directors based on gender (absolute numbers) - public universities

| Year | Total no. of projects | project directors with PhD-MEN | project directors with PhD WOMEN | project <br> directors <br> without PhD - <br> MEN | project <br> directors <br> without PhD - <br> WOMEN |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2015 | 145 | 81 | 64 | 0 | 0 |
| 2016 | 721 | 252 | 148 | 169 | 152 |
| 2017 | 673 | 28 | 9 | 257 | 379 |
| 2018 | 649 | - 20 | 6 | 262 | 361 |
| 2019 | 946 | 271 | 335 | 158 | 182 |
| 2020 | 217 | 127 | 89 | 0 | $1$ |
| 2021 | 319 | 150 | 157 | 8 | 4 |


| Year | Total no. of projects | project directors with PhD- MEN | project directors with PhD WOMEN | project <br> directors <br> without PhD - <br> MEN | project <br> directors <br> without PhD - <br> WOMEN |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2015 | 145 | 56\% | 44\% | 0\% | 0\% |
| 2016 | 721 | 35\% | 21\% | 23\% | 21\% |
| 2017 | 673 | 4\% | 1\% | 38\% | 56\% |
| 2018 | 649 | 3\% | 1\% | 40\% | 56\% |
| 2019 | 946 | 29\% | 35\% | 17\% | 19\% |
| 2020 | 217 | 59\% | 41\% | 0\% | 0\% |
| 2021 | 319 | 47\% | 49\% | 3\% | 1\% |
| Average |  | 33\% | 28\% | 17\% | 22\% |

Figure 10 - Distribution of projects directors with PhD in the period 2015-2021, based on their gender (absolute numbers) public universities


Key Findings:

1. PhD holders predominantly lead successful proposals. The number of PhD holders leading projects reflects universities' commitment to upholding research excellence.
2. Potential barriers might exist for women PhD holders in ascending to leadership roles, but no data is available at the time being to identify and further investigate these barriers.

### 2.3. Conclusions

Women representation is higher in teams than in director roles. $51 \%$ of project directors from public universities are women, and the share of women in project teams is of approximately $50 \%$. However, gender dynamics within public universities suggest a bias in terms of project directors holding a PhD title. One can notice that there are gaps between Ph.D. holders in terms of gender, with a prevalence men project managers holding a Ph.D. in the overall distribution of the funded projects.

Recommendations for future actions:

1. Promote Women Leadership: Funding bodies should prioritize initiatives that bolster women representation in leadership roles.
2. Recognize Non-PhD Excellence: While PhDs are valuable, non-PhD researchers with significant field experience should also be acknowledged and supported.
3. Flexible Funding Models: Adapt funding models to cater to both large-scale and smaller, pioneering projects.
4. Foster Interdisciplinary Research: Encourage and fund projects that transcend traditional domain boundaries.
5. Enhance Feedback Mechanisms: Offer comprehensive feedback for unsuccessful proposals to nurture a culture of continuous improvement.
6. Broaden Research Horizons: Regularly assess and diversify research domains to stay in sync with global research trends.
7. Professional Development: Fund training programmes aimed at equipping researchers with leadership, managerial, and administrative skills.
8. Transparency: Ensure clarity and transparency in funding decisions, promoting trust and understanding within the research community.
9. Engage External Collaborators: Encourage public universities to collaborate with external stakeholders, bringing in diverse perspectives and expertise.
10. Regular Assessments: Periodically review and recalibrate funding strategies based on evolving research landscapes and university needs.

## 3. Recommendations for further research

## Recommendation 1: Determining project success rate (\% of projects approved from all applications submitted) as a potential indicator of gender bias in the evaluation process

In order to examine whether men or women are more likely to lead successful projects, the project success rate should be determined (\% of projects approved from all applications submitted). A significant difference (i.e. more than 10 percent) between the success rate for projects led by women and that of projects led by men might pe indicative of gender biases in the evaluation process.

## Recommendation 2: Examining the professional experience of project directors

While a PhD is a strong academic credential, it's also worth examining project directors' specific professional experience, namely how many years the directors have been active in their fields. Further analysis is needed however to investigate the degree to which both the PhD as well as directors' professional experience exert an influence on projects' approval rate. However, this analysis should be based not only on data regarding approved/funded projects, but also on that regarding submitted proposals (i.e. by comparing the \% of PhD holders proposed as directors in submitted proposals with the \% of PhD holders leading approved/funded projects).

## Recommendation 3: Identifying potential correlations between gender and project fields

Do women project directors tend to lead more research projects in social sciences than their men counterparts? What about life sciences and STEM? An analysis of the gender distribution of project directors and project teams in the main project specialization areas / fields would provide answers to these questions, while helping policy makers develop the necessary instruments to ensure equal access and opportunities for researchers regardless the field they are working in. Moreover, the analysis could also look into whether men or women are more prone to lead highly complex or interdisciplinary projects.

## Recommendation 4: Identifying potential correlations between gender and roles/specialization

It would be pertinent to assess if there are specific research roles or specializations where women team members dominate. For instance, if women are more represented in desk research or fieldwork, it might point towards certain gender-specific trends in task delegation.

## Recommendation 5: Analyzing vertical mobility in research teams \& capacity building

Future research might look into vertical mobility, i.e. the share of women directors to have made the transition from team member roles to leadership roles, pointing towards possible growth opportunities. Are there opportunities and programmes in research institutes that allow team members, especially women, to upskill and move into directorship roles?

## 4. Overarching conclusions \& recommendations

The analysis shows that gender distribution in research teams is relatively balanced both in public research institutes as well as in universities. Women are relatively well represented in leadership roles (project directors) as well as in operational positions (team members). Thus:

- in the case of projects implemented by public research universities, the average share of women for the period 2015-2021 was 53\% for project directors and 54\% for project team members
- in the case of projects implemented by public universities, the average share of women for the period 2015-2021 was $51 \%$ for project directors and $50 \%$ for project team members

The emphasis on Ph.Ds. as a mark of research credibility and success is universally recognized across both types of entities (public research institutes and public universities), cementing its importance in the academic hierarchy.
Recommendations for future actions:

1. Proactive Gender Policies: Both entities should adopt or bolster proactive gender policies to further balance leadership roles.
2. Leadership Development Programmes: Introduce specialized leadership programmes, particularly focusing on nurturing women leaders in academia and research.
3. PhD Inclusivity: While valuing PhDs, also recognize and fund researchers based on experience, expertise, and innovative thinking.
4. Yearly Analysis: Conduct a detailed annual analysis to identify trends and adapt strategies accordingly.
5. Gender-specific Research Grants: Allocate specific research grants that prioritize or incentivize women-led projects.
6. Collaborative Projects: Promote collaborative projects between research/institutes and public universities to foster knowledge exchange and gender-balanced leadership.
7. Mentorship Programmes: Introduce gender-focused mentorship programmes, ensuring newer researchers get guidance from experienced leaders across genders.
8. Transparency in Leadership Selection: Ensure a transparent process in leadership roles selection, nullifying potential gender biases.
9. Feedback Systems: For projects that don't get approved, offer robust feedback, with a gender-neutral stance, nurturing a continuous improvement culture.
10. Regular Stakeholder Engagements: Engage with both men and women stakeholders regularly to understand their challenges, needs, and insights, ensuring a holistic approach to policy-making.
