



## **POLICY BRIEF 1**

### **Implementing Gender Equality Plans (GEPs) in Higher Education and Research in Widening Countries: The case of Agriculture & Life Sciences**



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# Implementing Gender Equality Plans (GEPs) in Higher Education and Research in Widening Countries: The case of Agriculture & Life Sciences

## 1. Objectives of the document

This policy brief reviews and analyses the challenges faced by Higher Education Institutions (HEIs) and Research Performing Organisations (RPOs) involved in the AGRIGEP project, all located in Central and Eastern European Countries (CEECs) designated as “widening countries” in the context of European Union’s research policies. Identified challenges might be similar to those experienced by other universities from widening countries during the development and implementation of their first Gender Equality Plan (GEP). Our aim here was to review the main difficulties or hindrances encountered by our institutions, mobilise the literature to understand their background, and share experiences on how to address them. We particularly focus on STEM fields (Science, Technology, Engineering, and Mathematics) in general and, more specifically, on the subsectors of agriculture and related life sciences that are strongly represented in the AGRIGEP project.

Agriculture and life science-focused universities and RPOs in the EU’s widening countries indeed face a double challenge when developing and implementing GEPs. First, the gender gap at the societal level is still wider in the 15 widening countries compared to the other EU member countries, which conditions the overall progress that can be achieved within intrinsically gendered organisations<sup>1</sup>. Second, gender challenges in the agriculture and life sciences sector are partly different from those encountered in other fields, including STEM, both regarding the *status quo* in academia and the situation in broader agri-food production<sup>2</sup>. Therefore, GEP implementation requires a strategy that addresses the double challenge posed by national gender equality (GE) contexts and sectorial specificities and is able to provide tailored responses to address them.

The objectives of this policy brief, drafted after one and a half years of implementation of the AGRIGEP project<sup>3</sup> in three widening countries’ universities, are thus threefold: First, to illustrate the double challenge of advancing GE in RPOs located in those domestic contexts and with a specialisation (although not exclusive) on agriculture and life sciences. Second, to highlight the need for context- and area-specific, tailored solutions to complement the more generic tools and insight brought by cumulative efforts carried out in this realm, notably as part of EU-funded initiatives. Third, to identify key cultural and organisational hindrances to change. However, tailored responses to these will be presented in the second Policy brief after implementing the project’s tasks.

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<sup>1</sup> Acker, J (1990). Hierarchies, Jobs, Bodies: A Theory of Gendered Organizations. *Gender and Society*, Vol. 4, No. 2 (Jun., 1990), pp. 139-158. <https://www.csun.edu/~snk1966/J.%20Acker%20Hierarchies,%20Jobs,%20Bodies%20--%20A%20Theory%20of%20Gendered%20Organizations.pdf>

<sup>2</sup> Pyburn, R. and van Eerdewijk, A. (2021). Advancing gender equality through agricultural and environmental research: Past, present, and future. *Washington, DC: International Food Policy Research Institute (IFPRI)*. <https://doi.org/10.2499/9780896293915>

<sup>3</sup> See project details: <https://cordis.europa.eu/project/id/101094158> and on the AGRIGEP website <https://agrigeu.eu/>

## 2. The case for gender equality in academia

In harmony with the SDG5 goal of the United Nations (UN)<sup>4</sup>, promoting GE in higher education and research is crucial to achieving social progress, economic development, sustainability, justice, and equity<sup>5</sup>. There is a robust case to sustain that GE fosters social diversity, leading to fresh perspectives, ideas, and solutions to various challenges and problems in general<sup>6</sup>. However, higher education and RPOs, bound to deliver the common good, have a particular role in upholding the highest management, teaching, and scientific standards<sup>7</sup> and striving for scientific progress and innovation through diverse research and student communities<sup>8</sup>. Meanwhile, overcoming GE-related problems in the context of the increasingly spreading neoliberal governance in universities is a particularly challenging issue<sup>7</sup>.

Despite women outnumbering men in higher education in the European Union<sup>9</sup>, significant gaps persist with regard to achieving gender equality both in gender-diverse and less gender-diverse academic and scientific areas. Women make up only one-third of the researchers in the EU<sup>10</sup>; female researchers are more likely to be employed under precarious working contracts and part-time than their male colleagues; two-thirds of them experience gender-based violence and are underrepresented in higher-level positions (*see Figure 1*). In STEM fields, the strongly gendered masculine organisational culture alienates women and other minority groups from pursuing careers in STEM professions, particularly after obtaining a PhD. Those who stay on the tenure track tend to experience significant gender-based obstacles during their professional advancement, such as implicit biases in evaluations, negative discrimination and gender-segregated networks, that all contribute to the perception of chilly climate for women<sup>11, 12</sup>. Apart from gender-related barriers similar to those experienced in STEM fields, the situation of women academics working in agriculture and related life science disciplines is faced with additional challenges. Partly due to their high demand for fieldwork or laboratory work and also due to their strong relation to the agro- or health-business sectors, these disciplines are characterised by high levels of gender segregation, which is both horizontal (by type of activities) and vertical (in terms of seniority and power)<sup>13</sup>. Simultaneously, ensuring a diverse workforce and equal opportunities for all appears to be a precondition for those sectors to effectively tackle defining challenges in the realm of health, food security, and climate action.

If properly designed and implemented, GEPs have the potential to promote equality by allowing all talented and ambitious individuals the chance to develop their skills and reach their full potential, regardless of gender<sup>14</sup>. By valuing diverse experiences and backgrounds and controlling for gender and

<sup>4</sup> UN SDG Goals. <https://www.unwomen.org/en/node/36060>

<sup>5</sup> Rosa et al. (2020). Gender equality in higher education and research. *Journal of Gender Studies*, 31(1), 1-7. <https://www.tandfonline.com/doi/pdf/10.1080/09589236.2022.2007446>

<sup>6</sup> Subactagin-Matto, A. (2022). Gender equality, diversity, and social inclusion. Pasai.org blog. <https://www.pasai.org/blog/2022/3/29/gender-equality-diversity-and-social-inclusion>

<sup>7</sup> See: RESET Joint Statement for Equality, Diversity, and Excellence in Research: [https://wereset.eu/wp-content/uploads/2022/09/Joint-statement-RESET\\_website.pdf](https://wereset.eu/wp-content/uploads/2022/09/Joint-statement-RESET_website.pdf)

<sup>8</sup> [https://undsci.berkeley.edu/wp-content/uploads/2022/09/UndSci\\_101\\_TheSocialSideofScience-1.pdf](https://undsci.berkeley.edu/wp-content/uploads/2022/09/UndSci_101_TheSocialSideofScience-1.pdf)

<sup>9</sup> European Commission. (2021). She Figures 2021— Policy briefs, <https://data.europa.eu/doi/10.2777/078011>

<sup>10</sup> Eurostat: Percentage based on head count;

[https://ec.europa.eu/eurostat/databrowser/view/rd\\_p\\_femres/default/table?lang=en&category=scitech.rd.rd\\_p](https://ec.europa.eu/eurostat/databrowser/view/rd_p_femres/default/table?lang=en&category=scitech.rd.rd_p)

<sup>11</sup> Xie et al. (2015). 'STEM education', *Annual Review of Sociology*, 41, 331. <http://10.1146/annurev-soc-071312-145659>

<sup>12</sup> Sheltzer, J. M., & Smith, J. C. (2014). Elite male faculty in the life sciences employ fewer women. *PNAS Proceedings of the National Academy of Sciences of the United States of America*, 111(28), 10107–10112. <https://doi.org/10.1073/pnas.1403334111>

<sup>13</sup> See for instance Gender-SMART advocacy document for integrating the governance of research funding and teaching (with a focus on agriculture and life science). <http://gender-smart.eu/?mdocs-file=1172>

<sup>14</sup> Ainscow, M. (2020). Inclusion and equity in education: Making sense of global challenges. *PROSPECTS*, 49, 123–134. <https://link.springer.com/article/10.1007/s11125-020-09506-w>

other intersecting biases, gender-sensitive RPOs can tackle neglected research areas and build innovative approaches and solutions to major societal and scientific challenges such as the green transition to carbon-neutral, climate-resilient economies. As acknowledged in the Ljubljana Declaration<sup>15</sup> adopted in 2021 under the Slovenian presidency of the EU Council, achieving sustainability and promoting GE in research and higher education institutions requires complex and strategic approaches and policy initiatives from all member states to ensure equal opportunities at recruitment and in career progression; gender balance in decision making; tackling sexual harassment and gender-based violence, and integrating of the gender dimension in research and teaching. Along with state institutions, RPOs are crucial in steering domestic change and tailoring solutions to the cultural, social, and economic context<sup>16</sup> to ensure long-lasting impact.

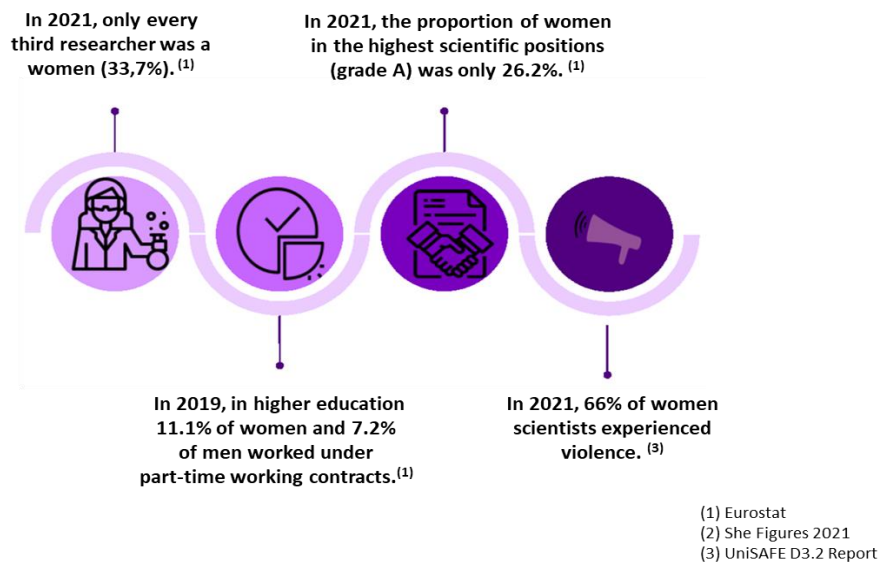


Figure 1 – Gender Inequality in European Science<sup>9, 11, 17</sup>

### 3. Gender equality in the widening countries

The GEP-implementing RPOs of the AGRIGEP project are located in the Czech Republic, Hungary and Slovenia. The project’s mentor organisations come from Spain, ranked 4th in EIGE’s Gender Equality Index, and Belgium, which is ranked 5th. The third mentor partner is an NGO operating in the same country as the project’s leader university, Hungary, ranked 26<sup>th</sup> out of 27<sup>th</sup> member states in EIGE’s GEI index<sup>18</sup>.

The status of gender (in)equality in each country is rooted in specific, socially and historically constructed arrangements described as “gender regimes” in the literature<sup>19</sup> to designate the combination of the sexual division of labour, the distribution of power, and patterns of social interactions deriving from cultural representations. It is also a path dependent on recent political and economic transformation processes, such as the transition from state socialism and authoritarianism

<sup>15</sup> COM/2020/628, 13567/20, The Ljubljana Declaration

<sup>16</sup> OECD (2022). Advancing gender equality through the social economy. <https://www.oecd.org/cfe/leed/social-economy/oecd-global-action/advancing-gender-equality-through-the-social-economy.htm>

<sup>17</sup> Fajmonová et al. (2021). UniSAFE D3.2 Report on the European Policy Baseline. <https://zenodo.org/records/5780037>

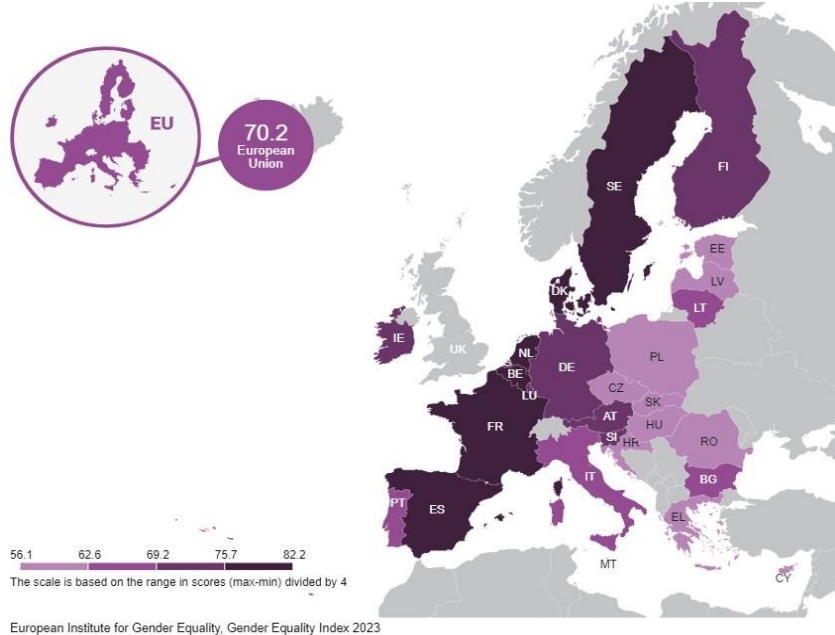
<sup>18</sup> EIGE Gender Equality Index. 2023. <https://eige.europa.eu/gender-equality-index/about>

<sup>19</sup> Walby, S. (2020). Varieties of Gender Regimes, Social Politics: International Studies in Gender, State & Society, 27(3), 414–431, <https://doi.org/10.1093/sp/jxaa018>

to liberal market democracy<sup>20</sup>, or the harmonisation of policies and politics with the EU<sup>21</sup>, and influenced by broader processes of societal change, such as those driven by the digital revolution<sup>22</sup>.

As acknowledged in various policy reports on progress in achieving the European Research Area’s (ERA) objectives on GE<sup>23</sup>, both difficulties and success are unevenly distributed across the EU. The gender gap in higher education and research largely coincides with the knowledge and innovation gap in less research-intensive widening countries. Mostly located in Central and South-Eastern Europe, these countries tend to rank low in EIGE’s Gender Equality Index and have lower access to research and innovation funding. Whereas significant progress has been made in the widening countries concerning policy frameworks preventing gender-based discrimination, access to decision-making, and access to higher education and employment, some patterns of segregation and hierarchies remain. Moreover, changes in terms of the unequal distribution of care work or the gender pay gap tend to be slower than in other EU member states (see *Figure 2*)<sup>24, 18</sup>.

Based on compounded Eurostat data in various fields, the GEI gives more visibility to areas – measuring 31 indicators on six core domains (work, money, knowledge, time, power, health) – that need improvement and ultimately support policy-makers in designing more effective GE measures. The index is published yearly and provides a comprehensive view of each country's progress in different areas. Although the EU has progressed toward GE, the GEI evidences a significant gap between the EU average and the performance of most of the widening countries, more specifically those located in CEE, which have shown moderate progress since they joined the EU after the latest enlargements in 2004, 2007 and 2013. Nevertheless, there is an overall upward trend, and the variance across member states, including CEECs, has decreased over 2010-2021<sup>21</sup>.



**Figure 2 – Gender Equality Index in the EU, 2023<sup>25</sup>**

<sup>20</sup> Gradskova, Y., Asztalos Morell, I. (eds.) (2020). *Gendering Postsocialism. Old Legacies and New Hierarchies*. Routledge.

<sup>21</sup> Forest, M. (2021) *Europeanization in Abels G., MacRae, H., Kriszan, A. and van der Vleuten, A. (eds.). The Routledge Handbook of Gender and EU Politics*, Routledge.

<sup>22</sup> Deloitte. (2015). *From brawn to brains. The impact of technology on jobs in the UK*.

<https://www2.deloitte.com/uk/en/pages/growth/articles/from-brawn-to-brains%2D%2Dthe-impact-of-technology-on-jobs-in-the-u.html>

<sup>23</sup> GENDERACTION. (2020). [https://genderaction.eu/wp-content/uploads/2020/06/D3.2\\_MonitoringERApriority4implementation.pdf](https://genderaction.eu/wp-content/uploads/2020/06/D3.2_MonitoringERApriority4implementation.pdf)

<sup>24</sup> WEF. (2023). *Global Gender Gap Report 2023*. <https://www.weforum.org/publications/global-gender-gap-report-2024/>

<sup>25</sup> EIGE. (2023). *Gender Equality Index 2023. Towards a green transition in transport and energy*, Publications Office of the European Union. <https://eige.europa.eu/publications-resources/publications/gender-equality-index-2023-towards-green-transition-transport-and-energy>

More specifically, the current GEI average of the EU is 70.2, with Sweden (82.2), Netherlands (77.9), Denmark (77.8), Spain (76.4), and Belgium (76.0) as the top five countries with the highest scores. Slovakia (59.2), Greece (58.0), the Czech Republic (57.9), Hungary (57.3) and Romania (56.1) have the lowest scores. Some member states, such as Cyprus, Bulgaria, Lithuania, and Malta, show steady upward mobility, progressively bridging the gap, while others, such as the Czech Republic, Hungary, Latvia, Romania, and Slovakia, are improving their GEI scores at a slower pace than other member states, leading to growing disparities over time compared with the rest of the EU.

Among the countries represented by AGRIGEP implementing partners, only Slovenia (69.4) performs above the EU average (69.2), also showing the highest score among both CEE and widening countries, while the Czech Republic and Hungary clearly feature among the lagging member states. Diverging patterns regarding gender inequality can be better grasped by examining more closely the six domains covered by the GEI. Hungary scores the lowest among the member states within the “Work domain”, and the Czech Republic also scores the lowest in the subdomains “Segregation and Quality of Work” and “Care activities”, the latter referring to the gender gap in the time devoted to care and housework. In Hungary, where the situation is similar, recent social policies have partly aimed to support women reintegrating into the labour market after childbirth - despite the strong pronatalist stance long adopted by the government and the widespread social expectation that women will care for children at home for years has been slowly changing in the country. Another noteworthy statistic about these countries is that while the unadjusted gender pay gap in the EU has been decreasing (from 16.4% to 12.7% between 2012 and 2022), it has remained above 15% in eight countries, including the Czech Republic and Hungary. Further evidence of this less favourable situation is that neither the Czech Republic nor Hungary have ratified the Istanbul convention, a circumstance only shared in the EU by three additional Central-Eastern European widening countries: Bulgaria, Slovakia and Lithuania)<sup>26</sup>. With respect to Research and Innovation sector (R&I), the proportion of women researchers in the EU was around one third (33.7%) in 2021. In the three AGRIGEP-implementing widening countries, only Slovenia featured somewhat higher proportion of women (34.4%) than the EU average, but it was below it in Hungary (29.3%), and in the Czech Republic (27.1%). These rates are higher in tertiary education, nevertheless, the Czech Republic had the lowest rate regarding the share of women both in all sectors and in higher education. (Table 1)

**Table 1.** The proportion of women researchers in R&I in 2021 (%)<sup>27</sup>

	EU27	Czech Republic	Hungary	Slovenia
All sectors	33.7	27.1	29.3	34.4
Higher education	43.9	35.6	39.1	44.7

At the meso-level, the gendered nature of organisations and gender-based structural inequalities in universities are well-described phenomena<sup>28</sup>. Gender-based discrimination at recruitment and in career progression and the difficulty of harmonising academic careers and motherhood still feature

<sup>26</sup> 2024 Report on Gender Equality in the EU. Luxembourg (2024). Publications Office of the European Union. [https://commission.europa.eu/document/download/965ed6c9-3983-4299-8581-046bf0735702\\_en?filename=2024%20Report%20on%20Gender%20Equality%20in%20the%20EU\\_coming%20soon.pdf](https://commission.europa.eu/document/download/965ed6c9-3983-4299-8581-046bf0735702_en?filename=2024%20Report%20on%20Gender%20Equality%20in%20the%20EU_coming%20soon.pdf)

<sup>27</sup> Eurostat: Percentage based on head count; [https://ec.europa.eu/eurostat/databrowser/view/rd\\_p\\_femres/default/table?lang=en&category=scitech.rd.rd\\_p](https://ec.europa.eu/eurostat/databrowser/view/rd_p_femres/default/table?lang=en&category=scitech.rd.rd_p)

<sup>28</sup> Sümer, S. (2020). Gendered Academic Citizenship. Issues and Experiences. Springer.



among the most pressing issues. Women are also exposed to higher precarity<sup>29</sup>, notably in relation to having children: mothers have a 1.7 times higher chance of receiving precarious working contracts (fixed-term contracts of one year or less, or no contract at all) than their male colleagues. Precarity for women researchers has nonetheless been decreasing in the EU member states (from 10.8% to 9.0% between 2016 and 2018), including the Czech Republic and Slovenia. However, in Hungary, the decrease was negligible, and the country had the worst precarity rate in 2019 (16.2%)<sup>11</sup>.

Vertical segregation is also tangible in the R&I sector. While Slovenia (1.39) fares better than the EU average in the glass ceiling index<sup>30</sup> of women researchers, it was below the EU average (1.59), but it was the third highest for Hungary (1.94)<sup>11</sup>. Expressed in numbers, women made up only 15.3% of full professors in Czech tertiary education in 2020<sup>31</sup>, while in Hungary, this ratio was 21.6% in 2018. Finally, regarding the share of women among the heads of institutions, Hungary and the Czech Republic scored well below the EU average (17.2% for both countries, while the EU average was 23.6%)<sup>11</sup>.

#### 4. The STEM field specificities

Although there have been some positive changes in the last decade, STEM fields still tend to present specific challenges for women, which also mirrors the statistics. Women are under-represented among university graduates (32.9% and 37.7% for BSc and MSc, respectively), among doctoral graduates (37.9), as well as across all career stages in the R&I labour market in 2018. The share of women among A-grade professors was lower in every field, but it was the lowest in the STEM fields, only 19% in 2018. Men researchers also appear to be more mobile in terms of jobs than women researchers in more advanced career stages. Gender gaps in active authorship and research funding success rates are also particularly noticeable in STEM fields<sup>11</sup>.

A recent report by the European Parliament concluded that secondary education provides the best time to close the gender gap in terms of building interest in STEM careers and choosing STEM disciplines at the university level<sup>32</sup>. Closing the gender gap in STEM would help to address labour shortages and recruitment difficulties in STEM-related jobs in the academic and private sectors<sup>9</sup>. However, the labour market strongly relates to how students react to trends and their willingness to choose STEM fields when choosing an institution and field of higher education<sup>21</sup>.

While overall enrolling in lower numbers, women graduating with a STEM degree also tend to change their work area, as the number of women working in STEM fields with STEM diplomas is lower than that of women graduating with STEM diplomas<sup>19</sup>. In the case of the three AGRIGEP-implementing countries, there is a significant drop in women's participation compared to doctoral holders and researchers in higher education. The figures in Table 2 show that a significant part of high-skilled women –and the human and economic capital they represent– are being lost to the STEM labour market. Moreover, the proportion of women differs even within STEM fields, and trends are not always upward.

<sup>29</sup> Murgia, A. – Poggio, B. (2019). Gender and Precarious Research Careers. A Comparative Analysis. London and New York: Routledge. <https://library.oapen.org/bitstream/handle/20.500.12657/76019/1/9781351781428.pdf#page=30>

<sup>30</sup> The glass ceiling index can range from 0 to infinity, and the higher the value, the stronger the glass ceiling effect.

<sup>31</sup> Linková, M., Langhammerová, G., Andreska, Z., & Oliva, E. (2023). Co-creating Gender Equality in Czech Academia: External and Internal Factors. *Sociologica*, 17(2), 59–72. <https://doi.org/10.6092/issn.1971-8853/16915>

<sup>32</sup> European Parliament. (2020). Education and employment of women in science, technology and the digital economy, including AI and its influence on gender equality.

[https://www.europarl.europa.eu/RegData/etudes/STUD/2020/651042/IPOL\\_STU\(2020\)651042\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/651042/IPOL_STU(2020)651042_EN.pdf)

**Table 2.** The proportion of women among PhD graduates and researchers by fields (%)<sup>11</sup>

2018	Natural sciences			Engineering, manufacturing and construction			ICT		
Country	CZ	HU	SL	CZ	HU	SL	CZ	HU	SL
PhD graduates	46.7	46.7	41.5	28.9	29.9	44.5	4	10.6	17.9
2018	Natural sciences			Engineering and technology					
Country	CZ	HU	SL	CZ		HU		SL	
Researchers in higher education	29	29.2	30.1	22.2		22.7		24.2	

- The proportion of *female doctoral graduates*, for example, in the field of natural sciences, slightly increased in the Czech Republic and Hungary but drastically dropped in Slovenia between 2016 and 2018. Ratios increased in engineering, manufacturing and construction in Slovenia (with 12.5%), but there is a significant drop in the field of information and communication technologies (ICT) in all three countries<sup>33</sup>.
- The proportion of *female researchers in higher education* in the field of natural sciences also increased in these widening countries but decreased in the field of engineering and technology, except for Hungary<sup>34</sup>.

The reasons for the low representation of women in academia in STEM fields are multifaceted. Attracting more girls into universities may indeed increase the number of women in R&I, but this does not necessarily mean an improvement in the overall gender ratio in higher levels of education or teaching and research positions. Female students already experience structural barriers during their university life. Biased evaluation of women's scientific achievements mainly due to the negative stereotypes towards their professional knowledge and competence, as well as discrimination of women, particularly mothers, all contribute to perpetuating an adverse environment in the STEM field. These structural barriers to GE and women's professional advancement are heavily rooted in the masculine environment and view of science in STEM fields<sup>35</sup>. In these fields, along with removing structural barriers, exceptional support and guidance are to be provided to female students and researchers to overcome challenges posed by deeply rooted stereotypes and social traditions.

## 5. Why to focus on agriculture and life science?

A report by the United Nations (UN) Food and Agriculture Organization (FAO) shows that globally, 36% of working women and 38% of working men work in agrifood systems as of 2019. For both women and men, this represents a decline of about 10% since 2005, driven almost exclusively by a reduction in employment in primary agricultural production. FAO estimates that closing the gender gap in farm productivity and the wage gap in agrifood-system employment would increase global gross domestic

<sup>33</sup> CZ: from 8 to 4%; HU: from 14 to 10.6%, SL: from 24 to 17.9% (from 2016 to 2018)

<sup>34</sup> Slightly decreased in the Czech Republic but fell 7.6% in the Slovenian one, while Hungary featured an increase of 4% between 2010 and 2018.

<sup>35</sup> Froehlich et al. (2022). Gender Stereotypes and Expected Backlash for Female STEM Students in Germany and Japan. *Frontiers in Education*. <https://www.frontiersin.org/articles/10.3389/feduc.2021.793486/full>

product by 1% (or nearly USD 1 trillion). This would reduce global food insecurity by about 2%, reducing the number of food-insecure people by 45 million<sup>36</sup>.

The AGRIGEP project extensively reviewed the academic literature on women in agriculture and found that globally, women face several gender-based challenges in food production and agriculture:

- Women have limited access to resources, in particular to land and markets, due to traditional customs and patriarchal norms.
- Cultural and societal norms limit women's economic agency and empowerment.
- Women often face gender-based violence and suffer the consequences of armed conflict, which significantly hinders their ability to engage fully and safely in agricultural activities and decision-making.
- Gender asymmetry in power dynamics in multi-generational farming households marginalises younger women and increases the vulnerability of older women.
- Due to men migrating from rural areas in greater numbers, women are left to manage household and agricultural responsibilities alone. In these cases, women often are forced to take the traditional male roles while still being dependent on the remittances of their relatives.
- Women are frequently excluded from decision-making roles in advisory services, which predominantly cater to male farmers, thereby reinforcing gender inequalities.

Empowering women and ensuring equal opportunities in agriculture is crucial, as numerous studies highlight women's vital and prominent role in global food production, particularly in developing countries<sup>15, 37</sup>. In rural and impoverished areas, access to land, agricultural resources, and education significantly impact food productivity and security; women make up a large portion of the agricultural workforce, where access to land, resources, and education is crucial for improving food productivity and security. Due to social and cultural specificities, rural women are more likely to maintain more sustainable agricultural practices than farming men. Through home garden farming, women's agricultural activity in vulnerable rural communities can boost economic and social stability, local employment, and reduce poverty<sup>23</sup>. Overall, empowering and supporting women in all segments of agriculture can significantly contribute to sustainability, inclusiveness, climate change mitigation and adaptation, and economic development. The participation of women in agriculture also enhances the diversification of agricultural production, thus increasing stability and resilience<sup>38</sup>.

While their role in the agri-food system is widely acknowledged worldwide, in the EU, women account for only 29% of farm managers, with only 4.2% under the age of 35 and 42% over 65. Demographics and ageing are the greatest challenges to the sector's sustainability, as most farms are run by farmers over the age of 55 (this data refers to both sexes), a situation that projects that the gender distribution is expected to change in this sector soon<sup>39</sup>.

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<sup>36</sup> FAO. (2023). The status of women in agrifood systems. Rome. <https://doi.org/10.4060/cc5343en>

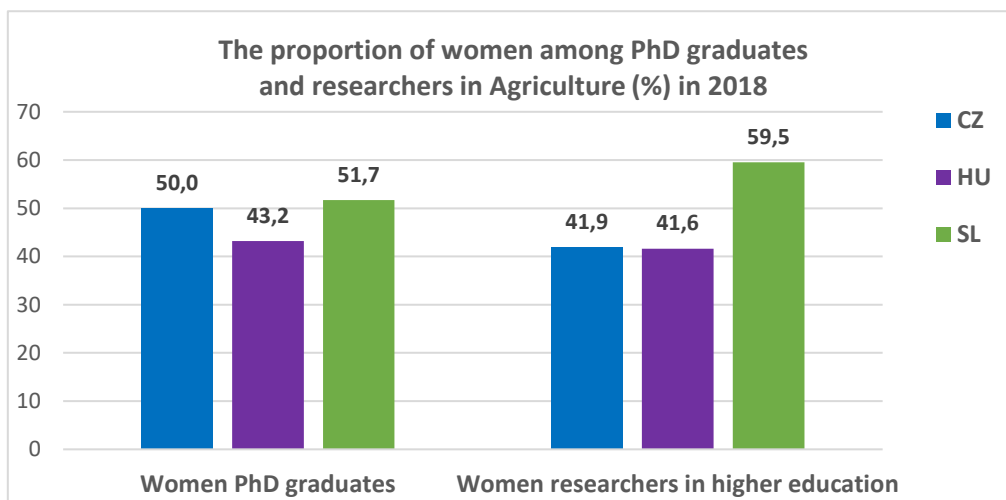
<sup>37</sup> FAO. (2021). Statistical Yearbook – World Food and Agriculture 2021. <https://www.fao.org/3/cb4477en/online/cb4477en.html>

<sup>38</sup> UNCTAD. (2019). The role of rural women in traditional farming systems as guardians of biodiversity and agents of food security and resilience. [https://unctad.org/system/files/official-document/ciem8d2\\_en.pdf](https://unctad.org/system/files/official-document/ciem8d2_en.pdf)

<sup>39</sup> European Commission. (2021). Females in the fields. Directorate-General for Agriculture and Rural Development [https://agriculture.ec.europa.eu/news/females-field-2021-03-08\\_en](https://agriculture.ec.europa.eu/news/females-field-2021-03-08_en)

Yet, policies and academic discourses tend to overlook the issue of women’s participation in agriculture because the proportion of women in agricultural majors in European universities is usually more gender-balanced than, for example, in engineering and ICT. However, the gender proportion of a given field is not a sole and exclusive indicator of its current GE status. For example, proper education is a significant tool for decreasing gender inequality in the agri-food sector. However, only 10% of farm managers receive full agricultural training<sup>40, 41</sup>. Women are also underrepresented in these trainings; only 6.4% received full agricultural training compared to male farm managers (11.9%) in 2023<sup>42</sup>. Therefore, increasing both the number and the proportion of women in agricultural higher education is of utmost importance.

Regarding the situation of the widening countries represented in AGRIGEP, the proportion of female researchers in the field of agriculture in higher education increased in the last decade (Figure 3). Meanwhile, in 2018, the share of women researchers (59.5%) was significantly higher than that of men in Slovenia but only slightly more than 40% in the Czech Republic and Hungary<sup>43</sup>. At the same time, it is worrying that the proportion of women PhD graduates dropped between 2016 and 2018 in the Czech Republic (from 55.0 to 50.0%) and in Hungary (from 51.0 to 42.3%). Figure 3 shows how the “leaky pipeline” works in the agriculture sector as well: the representation of women is lower among researchers in the higher education sector than among PhD recipients. Vertical segregation of women in the AGRIGEP universities is also present in AGRIGEP universities, with a lower proportion of women in leading positions, both in senior researcher positions and as decision-makers.



**Figure 3 – The proportion of women among PhD graduates and researchers in Agriculture (%)<sup>11</sup>**

<sup>40</sup> Full agricultural training means: any training course continuing for the equivalent of at least two years full-time training after the end of compulsory education and completed at an agricultural college, university or other institute of higher education in agriculture, horticulture, viticulture, silviculture, pisciculture, veterinary science, agricultural technology or an associated subject.

<sup>41</sup> [The generational and gender gap in agriculture - Demeter \(h2020-demeter.eu\). https://h2020-demeter.eu/the-generational-and-gender-gap-in-agriculture/](https://h2020-demeter.eu/the-generational-and-gender-gap-in-agriculture/)

<sup>42</sup> [Agriculture statistics at regional level - Statistics Explained \(europa.eu\). https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Agriculture\\_statistics\\_at\\_regional\\_level](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Agriculture_statistics_at_regional_level)

<sup>43</sup> European Commission. (2021). Females in the fields. Directorate-General for Agriculture and Rural Development. [https://agriculture.ec.europa.eu/news/females-field-2021-03-08\\_en](https://agriculture.ec.europa.eu/news/females-field-2021-03-08_en)

Universities with agricultural profiles also embed unique gender-related challenges that require tailored strategies<sup>44</sup>. Scholars firstly tended to focus on barriers to women's advancement in the STEM fields in general, and later on, engineering and ICT in particular, where women are in token positions<sup>12</sup>. Later, attention started to be given to STEM majors with better gender-balanced fields, such as biology and agriculture<sup>45</sup>. Scholars found, on the one hand, that women in these fields can face quite similar gender-based challenges, such as vertical segregation and biased or discriminatory selection processes<sup>46</sup>. On the other hand, women in these fields are also likely to experience unique sector-specific challenges, which have remained under-explored so far.

Within the framework of the AGRIGEP project, earlier research findings from academic literature and EU-funded projects on agriculture and related life science disciplines (mainly biology and veterinary) were reviewed. Results show that institutional policies, cultural norms, and educational practices significantly shape women's experiences and opportunities in agriculture and life science education, both as students and faculty staff. Work-life balance and precarious employment are huge challenges for young mothers: biased evaluations and treatments are prevalent mainly in hiring practices and advancement opportunities. The inflexibility of laboratory work, as well as working with hazardous substances pose significant obstacles to women particularly. Safety issues regarding remote fieldwork is also a valid discourse for women, while the devaluation of women's knowledge or skills and sexual harassment are critical factors particularly in certain subfields of agriculture where men are heavily overrepresented, such as forestry or earth sciences<sup>47</sup>.

Results also called attention to the fact that the institutionalisation of GE processes and the engagement of management are vital for creating changes in mindset and organisational culture, particularly where organisational resistance is strong<sup>48</sup>. The EU-funded Gender-SMART project, a consortium of seven partners that aimed to build a GE culture in agriculture and life sciences, thus identified biases strongly linked to the field of agriculture and the stereotypes related to it<sup>49</sup>, as well as several obstacles to introducing GEPs, such as organisational resistance, low engagement of stakeholders, lack of organisational resources, authority and sustainability. The project addressed GE as a matter of scientific excellence and concluded that funding, evaluation, research content, academic performance, innovation, partnerships, networks and mobility are closely interlinked factors of GE. The project therefore offered twelve experience-based good practices for supporting GE and the implementation of GEPs<sup>50</sup>.

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<sup>44</sup> UNESCO. (2019). STEM education for girls and women: breaking barriers and exploring gender inequality in Asia. Bangkok: UNESCO Bangkok Office. <https://unesdoc.unesco.org/ark:/48223/pf0000375106>

<sup>45</sup> Fisher CR. – Thompson CD. – Brookes RH. (2022) Levels of Science Identity, Belonging and Experiences of Discrimination for Commencing Science Students at an Australian University. *International Journal of Innovation in Science and Mathematics Education*, 30(2): 1-13. <https://doi.org/10.30722/IJISME.30.02.001>

<sup>46</sup> Murgia, A. – Poggio, B. (2018). *Gender and Precarious Research Careers. A Comparative Analysis*. Routledge

<sup>47</sup> Paksi, V – Tardos, K. – Rigler, D. – Pélyi, L. (2024) AGRIGEP D15. Report on gender equality enablers and barriers in academia with a special focus on agriculture and life sciences (submitted)

<sup>48</sup> Mergaert, L. – Knoll, B. – Renkin, A. (2021). GEECCO D8.6 Final Report on Supporting Activities. Available at: [https://www.tuwien.at/fileadmin/Assets/dienstleister/abteilung\\_genderkompetenz/gender\\_in\\_der\\_Forschung/GEECCO\\_R esults/Public\\_deliverables/GEECCO\\_D8.6\\_Final\\_Report\\_on\\_Supporting\\_Activities.pdf](https://www.tuwien.at/fileadmin/Assets/dienstleister/abteilung_genderkompetenz/gender_in_der_Forschung/GEECCO_R esults/Public_deliverables/GEECCO_D8.6_Final_Report_on_Supporting_Activities.pdf)

<sup>49</sup> Georgiadou, A. – Guyard, L. – Zeller, A. (2020). Gender-SMART D4.2. Typology of gender biases in recruitment, career management and work-life balance schemes and practices. <https://gender-smart.eu/wp-content/uploads/2024/03/D4.2-Typologies-of-gender-biases-Gender-SMART-deliverable.pdf>

<sup>50</sup> Gender equality plans in academia and research: success factors and obstacles.

[https://eige.europa.eu/sites/default/files/documents/success\\_factors\\_and\\_obstacles\\_for\\_gender\\_equality\\_plans.pdf](https://eige.europa.eu/sites/default/files/documents/success_factors_and_obstacles_for_gender_equality_plans.pdf)

In sum, the field of agriculture and life sciences hides plenty of obstacles to gender equality in academia. Several barriers are similar to those experienced in the less gender-diverse STEM fields, but the revealed agriculture and life science-specific barriers need further exploration in order to implement sector- and university-specific tailored GE strategies and GEPs.

## 6. The case of the AGRIGEP project

Two of the AGRIGEP consortium members have strong expertise in agriculture for development, contributing to numerous projects overseas while receiving students and scholars from over 100 nations. More than 7,500 international students are enrolled at the three RPOs, and at the Czech and Hungarian partner universities, significant proportion come from African and Asian countries. Through their engagement with multilateral funding agencies and local actors pursuing a gender transformative agenda, our RPOs are thus both in need and have the capacity to build topical gender expertise. Moreover, although applied differently to the context of agriculture in Europe, patterns of gender segregation and the role of gendered social norms and dynamics in the functioning and sustainability of rural communities are also important on our continent<sup>51</sup>, just as the unequal contribution of men and women across different disciplines and research areas in the agriculture<sup>52</sup>.

In the AGRIGEP project, GEP implementing partners were invited to self-assess their skills and capacities to conduct a change process on GE. Coordinated by Yellow Window, one of AGRIGEP's mentoring partners, this process was completed by cross-analysis, evidencing areas for capacity-building and support. The assessments, both conducted by the organisations and the mentors, already identified three main areas that need to be intensively targeted in the GEP strategy implementation—although with different intensity—at each organisation.

### 6.1. Capacity and capabilities

Over the past few years, partner organisations have been faced with the domestic effect of global crises, some of which have hit less resilient economies and societies of our region harder: the COVID-19 pandemic and its aftermath, the energy crisis triggered by international conflicts, the high inflation have all had and continue to have serious socio-economic impacts in the project countries. Within this context, the AGRIGEP consortium faces several specific challenges in successfully developing and implementing its institutional GEPs, including:

- A **lack of internal experts** with extensive experience in GE and agricultural higher education at participating universities. All university participants require external consultants for training on a range of GE topics, as there is a shortage of internal staff for GE training.
- A shortage of dedicated **resources**:
  - Particularly in terms of human and infrastructural capacities to make the GEP sustainable long-term, which is more pronounced when research and higher education institutions face local or regional economic challenges.

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<sup>51</sup> Gumucio et al. (2020). Gender-responsive rural climate services: a review of the literature. *Climate and Development*, 12(3), 241-254. <https://doi.org/10.1080/17565529.2019.1613216>

<sup>52</sup> European Commission. (2022). Monthly Focus – Gender equality in research and innovation. *Horizon – The EU Research & Innovation Magazine*. <https://ec.europa.eu/research-and-innovation/en/horizon-magazine/gender-equality-research-and-innovation>

- The field of HR is not treated as a strategic opportunity by the institutions, and the right GE strategic approach is not integrated into HR actions.
- Financial resources are limited or not allocated appropriately for efficient GEP implementation; gender budgeting is almost missing.

## 6.2. Low stakeholder engagement and hindering work culture

There is a lack of relevant **networking and partnerships** in GE at national and international levels, across the CEE region. Achieving GE requires profound changes in social norms, which is a challenging, long, and difficult process necessitating the participation of various stakeholders. In higher education and research, stakeholders include members of various communities (students, administrative, research and teaching staff), individuals in decision-making or gate-keeping positions, and people holding organisational knowledge or topical gender expertise. In widening countries, we observe the low level of engagement of most of these stakeholders on GE issues. They hardly recognise or acknowledge the potential and value of greater diversity and women's increased participation in organisations.

Low engagement towards GE issues is path dependent on hierarchical, siloed, and bureaucratic structures and ways of doing things inherited from the past, but also towards more recently introduced managerial trends emphasising individual competition over cooperation, individual leadership versus participation, and strengthening the central position of the manager-expert<sup>53</sup>. Managerialism and the spread of the neoliberal agenda in universities contribute to low overall involvement in non-mandatory activities, cause RPO members to refrain from raising their voices and concerns, and collectively reduce work culture and conditions<sup>5</sup>. Gender blindness is also rooted in vertical gender segregation; namely, top management is mainly made up of senior academics and shares traditional gender norms<sup>54</sup>. Eliminating gender inequalities tends to be conceived as an individual's responsibility rather than structural and cultural barriers or lack of institutional support. In the case of RPOs in our project operating in the field of life science and agriculture, broader ecosystems are involved, comprising, for instance, the pharmaceutical and agri-food-business sectors, whose stakeholders might demonstrate different degrees of readiness to engage with GE issues and challenge existing segregation and inequalities within those sectors.

Adapting communication systems and work culture to enhance GE is another significant challenge<sup>55</sup>. While all the research and higher education institutions involved in the project have an organisational plan for GE, there is still a lack of integration in individual departments' communication and work processes. This is particularly true regarding education that caters to gender-specific needs. GE efforts are more visible in research and project management but are largely limited to improving gender balance in research teams. Various opportunities have not been fully utilised, including mentoring programmes, flexible work arrangements, accessible care services, GE and inclusion training, and involving women in recruitment and career development management.

<sup>53</sup> Black, S. (2015). Qualities of Effective Leadership in Higher Education. *Open Journal of Leadership*, 4, 54-66. DOI: 10.4236/ojl.2015.42006.

<sup>54</sup> Paksi – Nagy – Tardos (2022). Perception of Barriers to Motherhood: Female Phd Students' Changing Family Plans in the STEM Fields. *Social Inclusion*, 10(3):149-159. <http://doi.org/10.17645/si.v10i3.5250>

<sup>55</sup> International Labour Organization. (2020). Empowering Women at Work. [https://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---emp\\_ent/---multi/documents/publication/wcms\\_756721.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---multi/documents/publication/wcms_756721.pdf)

### 6.3. Intermediate conclusions on transforming institutions

Based on this assessment and the context analysis described above, the following needs have been identified:

1. There is a need for **intensive capacity development to enhance skills**. However, this process is resource-intensive, requiring significant human resource development and training. In particular, organisations in most of the widening countries lack local training programmes, making acquiring the necessary skills challenging. Language barriers can also be problematic as training materials from Western Europe are difficult to adapt. Additional resources are essential to adapting the training programmes to the context and overcoming language barriers.
2. **Long-term mentoring** is necessary to facilitate change. The current 36-month projects are too brief to adequately support organisations with little to no background in advancing GE internally. They require extensive mentoring to support development and implement the first GEP, while mentors possess decades of experience. Long-term mentoring will strengthen organisations to achieve genuine transformation.
3. **Develop internal monitoring tools for GE**. In many cases, the first GEP was developed in a relatively short period of time, resulting in a insufficiently targeted GEP that did not fully reflect local needs, capabilities, and/or capacities. Although mandatory areas are covered, the lack of baseline data before the first GEP was developed may have hindered timely and effective implementation in many cases. Therefore, developing monitoring systems with SMART indicators<sup>56</sup> and supporting these efforts is an essential step.
4. **Structural change requires dedicated resources**. However, current EU-funded GEP projects have limited budgets. Adequate financial support – both externally and internally allocated financial resources– is necessary to develop and sustain successful GEPs, which are crucial for achieving and maintaining sustainable structural change, supporting changes in work culture, and improving working conditions. Further incentivising member states – even if they have already released some resources – to strengthen domestic policy frameworks for GEP implementation will be key to creating favourable environments for effective institutional change.
5. **Support stakeholders and intensify networking** by providing resources for network development for the “newcomers” of widening countries. It is vital to build a network of cooperation between education and research institutions in the widening countries and their industry and advocacy partners. This will ensure that the targeted resources are used efficiently and effectively and that their impact can be measured. At the same time, building a network will help showcase good practices and make them context-specific.
6. **Continuous awareness raising and training at the management level**. Continuous training is essential to facilitate capacity building, ensure adequate organisational resources and improve the institutionalisation of GE. To this end, the network of local stakeholders should be strengthened, as RPOs’ GE specialists need to be continuously trained and supported.

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<sup>56</sup> SMART stands for Specific, Measurable, Achievable, Relevant, Time-bound. SMART Indicators in Monitoring and Evaluation (M&E). <https://www.evalcommunity.com/career-center/smart-indicators/>



## 7. Bridging the gaps: a path toward encompassing institutional transformations

Nevertheless, the three RPOs could complement and support each other by sharing their local experiences and helping each other in their common interests. They can also learn and build on each other's achievements to create a regional network to strengthen their position and support their progress. These strategies should be embedded into a broad transformational agenda. Social, economic, and technological transformations rarely happen in isolation. Global inequalities, uneven development paths, or different degrees of contributions to climate change are rooted in power relations among nations, notably along with colonial heritage and gender inequality patterns. Similarly, technological revolutions impeded digital transformations, such as the fast development of artificial intelligence (AI), which reflects existing biases and inequalities and triggers new challenges. Higher education and research organisations are bound to navigate these transformations from their specificities and resources and shall strive to ensure that diverse needs and experiences are addressed and mobilised.

Although widening countries from Central and Eastern Europe share several common experiences in their history, they differ greatly in many aspects, including their social development paths. This has left a mark on how efforts to correct social inequalities were framed – notably from the perspective of their different experiences of State socialism in the respective countries. Divergence across these countries also prevails in the degree to which the political and social value given to traditional social roles' has been amplified to emphasise the preservation of social homogeneity and social institutions like the family. Whereas these widening countries largely resemble other EU member states regarding women's access to higher education and employment, differences remain in their access to leadership, decision-making, and the broader acceptance of the social change. Yet, acknowledging cultural differences is key to approaching transformative agendas in higher education and research.

In this document, we aimed to address and give an accurate picture of the challenges that CEE widening countries' universities face when implementing their first GEP plan. The lack of capacity, the lack of a network, the limited engagement of a few stakeholders, the social challenges and divergences, the differences in economic background, and the lack of resources highlighted a number of problems for each implementing partner. However, systematic and sustained screening in the project's first year has already opened up opportunities that, if grasped, could move the universities forward in overcoming these challenges. There is still a long way to go. Still, the work we started will support us in finding appropriate answers within our possibilities and the project's scope, building on the results of previous projects, their available toolsets and the experience of our mentors. In the project's third year, the next Policy brief will further assess the success and short-term effects of the GEP implementation strategies. Furthermore, it will provide details on the new tailor-made GEPs, which aim to better address the widening partners' agriculture and life science focus-related needs.